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Complete Terms of Use is available at [http://www.mayomedicallaboratories.com/customer-service/terms.html](http://www.mayomedicallaboratories.com/customer-service/terms.html)

Definition of Specimen "Minimum Volume"

Defines the amount of specimen required to perform an assay once, including instrument and container dead space. Submitting the minimum specimen volume makes it impossible to repeat the test or perform confirmatory or perform reflex testing. In some situations, a minimum specimen volume may result in a QNS (quantity not sufficient) result, requiring a second specimen to be collected.
POLICY STATEMENTS

Animal Specimens
We do not accept animal specimens for laboratory testing.

Billing
Client—Each month you will receive an itemized invoice/statement which will indicate the date of service, patient name, CPT code, test name, and test charge. Payment terms are net 30 days. When making payment, please include our invoice number on your check to ensure proper credit to your account.

Patient—Mayo Medical Laboratories does not routinely bill patient’s insurance; however, if you have made advanced arrangements to have Mayo Medical Laboratories bill your patient’s insurance, please include the following required billing information: responsible party, patient’s name, current address, zip code, phone number, Social Security number, and diagnosis code. Providing this information will avoid additional correspondence to your office at some later date. Please advise your patients that they will receive a bill for laboratory services from Mayo Medical Laboratories for any personal responsibility after insurance payment. VISA® and MasterCard® are acceptable forms of payment.

Billing—CPT Coding
It is your responsibility to determine correct CPT codes to use for billing. While this catalog lists CPT codes in an effort to provide some guidance, CPT codes listed only reflect our interpretation of CPT coding requirements and are not necessarily correct. Particularly, in the case of a test involving several component tests, this catalog attempts to provide a comprehensive list of CPT codes for all of the possible components of the test. Only a subset of component tests may be performed on your specimen. You should verify accuracy of codes listed. Where multiple codes are listed, you should select codes for tests actually performed on your specimen. Mayo Medical Laboratories assumes no responsibility for billing errors due to reliance on CPT codes listed in this catalog. For further reference, please consult the CPT Coding Manual published by the American Medical Association. If you have any questions regarding use of a code, please contact your local Medicare carrier.

Business Continuity and Contingency Planning
In the event of a local, regional, or national disaster, Mayo Clinic and Mayo Medical Laboratories’ performing sites have comprehensive contingency plans in place in each location to ensure that the impact on laboratory practice is minimized. With test standardization between our performing sites and medical practice locations throughout the country, we have worked to ensure that patient care will not be compromised.

Cancellation of Tests
Cancellations received prior to test setup will be honored at no charge. Requests received following test setup cannot be honored. A report will be issued automatically and charged appropriately.

Chain-of-Custody
Chain-of-custody, a record of disposition of a specimen to document who collected it, who handled it, and who performed the analysis, is necessary when results are to be used in a court of law. Mayo Medical Laboratories has developed packaging and shipping materials that satisfy legal requirements for chain-of-custody. This service is only offered for drug testing.
Compliance Policies
Mayo Medical Laboratories is committed to compliance with applicable laws and regulations such as the Clinical Laboratory Improvement Amendments (CLIA). Regulatory agencies that oversee our compliance include, but are not limited to, the Centers for Medicare and Medicaid Services (CMS), the Food and Drug Administration (FDA), and the Department of Transportation (DOT). Mayo Medical Laboratories develops, implements, and maintains policies, processes, and procedures throughout our organization which are designed to meet relevant requirements. We expect clients utilizing our services will ensure their compliance with patient confidentiality, diagnosis coding, anti-kick back statutes, professional courtesy, CPT-4 coding, CLIA proficiency testing, and other similar regulatory requirements. Also see “Accreditation and Licensure,” “HIPAA Compliance,” and “Reportable Disease.”

Confidentiality of Results
Mayo Medical Laboratories is committed to maintaining confidentiality of patient information. To ensure Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the College of American Pathologists (CAP) compliance for appropriate release of patient results, Mayo Medical Laboratories has adopted the following policies:

Phone Inquiry Policy—One of the following unique identifiers will be required:
- Mayo Medical Laboratories’ accession ID number for specimen; or
- Client account number from Mayo Medical Laboratories along with patient name; or
- Client accession ID number interfaced to Mayo Medical Laboratories; or
- Identification by individual that he or she is, in fact, “referring physician” identified on requisition form by Mayo Medical Laboratories’ client

Under federal regulations, we are only authorized to release results to ordering physicians or health care providers responsible for the individual patient’s care. Third parties requesting results including requests directly from the patient are directed to the ordering facility. We appreciate your assistance in helping Mayo Medical Laboratories preserve patient confidentiality. Provision of appropriate identifiers will greatly assist prompt and accurate response to inquiries and reporting.

Critical Values
The “Critical Values Policy” of the Department of Laboratory Medicine and Pathology (DLMP), Mayo Clinic, Rochester, Minnesota is described below. These values apply to Mayo Clinic patients as well as the extramural practice administered through affiliate Mayo Medical Laboratories. Clients should provide contact information to Mayo Laboratory Inquiry to facilitate call-backs. To facilitate this process, a customized form is available at mayomedicallaboratories.com

Definition of Critical Value—A critical value is defined by Mayo Clinic physicians as a value that represents a pathophysiological state at such variance with normal (expected values) as to be life-threatening unless something is done promptly and for which some corrective action could be taken.

Abnormals are Not Considered Critical Values—Most laboratory tests have established reference ranges, which represent results that are typically seen in a group of healthy individuals. While results outside these reference ranges may be considered abnormal, “abnormal” results and “critical values” are not synonymous. Analytes on the DLMP Critical Values List represent a subgroup of tests that meet the above definition.

Action Taken when a Result is Obtained that Exceeds the Limit Defined by the DLMP Critical Values List—In addition to the normal results reporting (e.g., fax, interface), Mayo Medical Laboratories’ staff telephone the ordering physician or the client-provided contact number within 60 minutes following laboratory release of the critical test result(s). In the event that contact is not made within the 60-minute period, we continue to telephone until the designated party is reached and the result is conveyed in compliance and adherence to the CAP.
Semi-Urgent Results— Semi-Urgent Results are defined by Mayo Clinic as those infectious disease-related results that are needed promptly to avoid potentially serious health consequences for the patient (or in the case of contagious diseases, potentially serious health consequences to other persons exposed to the patient) if not acknowledged and/or treated by the physician. While not included on the Critical Values List, this information is deemed important to patient care in compliance and adherence to the CAP.

To complement Mayo Medical Laboratories’ normal reporting mechanisms (e.g., fax, interface), Mayo Medical Laboratories’ staff will telephone results identified as significant microbiology findings to the ordering facility within 2 hours following laboratory release of the result(s). In the event that contact is not made within the 2-hour period, we will continue to telephone until the responsible party is reached and the result is conveyed. In addition, in most instances, you will see the comment SIGNIFICANT RESULT appear on the final report.

For information regarding the Mayo Clinic Critical Value List, contact Mayo Medical Laboratories at 800-533-1710 or 507-266-5700 or visit mayomedicallaboratories.com.

Disclosures of Results
Under federal regulations, we are only authorized to release results to ordering physicians or other health care providers responsible for the individual patient’s care. Third parties requesting results, including requests directly from the patient, are directed to the ordering facility.

Extracted Specimens
Mayo Medical Laboratories will accept extracted nucleic acid for clinical testing, provided it is an acceptable specimen source for the ordered test, if the isolation was performed in a CLIA-certified laboratory or a laboratory meeting equivalent requirements as determined by the CAP and/or the CMS.

Fee Changes
Fees are subject to change without notification and complete pricing per accession number is available once accession number is final. Specific client fees are available by calling Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 or by visiting mayomedicallaboratories.com.

Framework for Quality
“Framework for Quality” is the foundation for the development and implementation of the quality program for Mayo Medical Laboratories. Our framework builds upon the concepts of quality control and quality assurance providing an opportunity to deliver consistent, high-quality and cost-effective service to our clients. In addition, our quality program enhances our ability to meet and exceed the requirements of regulatory/accreditation agencies and provide quality service to our customers.

A core principle at Mayo Medical Laboratories is the continuous improvement of all processes and services that support the care of patients. Our continuous improvement process focuses on meeting the needs of you, our client, to help you serve your patients.

“Framework for Quality” is composed of 12 “Quality System Essentials.” The policies, processes, and procedures associated with the “Quality System Essentials” can be applied to all operations in the path of workflow (e.g., pre-analytical, analytical, and post-analytical). Performance is measured through constant monitoring of activities in the path of workflow and comparing performance through benchmarking internal and external quality indicators and proficiency testing.

Data generated by quality indicators drives process improvement initiatives to seek resolutions to system-wide problems. Mayo Medical Laboratories utilizes “Failure Modes and Effects Analysis (FMEA),” “Plan Do Study Act (PDSA),” “LEAN,” “Root Cause Analysis,” and “Six Sigma” quality improvement tools to determine appropriate remedial, corrective, and preventive actions.
Quality Indicators—Mayo Medical Laboratories produces hundreds of Key Performance Indicators for our business and operational areas, and we review them regularly to ensure that we continue to maintain our high standards. A sampling of these metrics includes:

- Pre-analytic performance indicators
  - Lost specimens*
  - On-time delivery
  - Special handling calls
  - Specimen acceptability*
  - Specimen identification*
  - Incoming defects*

- Analytic performance indicators
  - Proficiency testing
  - Test reliability
  - Turnaround (analytic) times
  - Quantity-not-sufficient (QNS) specimens*

- Post-analytic performance indicators
  - Revised reports*
  - Critical value reports*

- Operational performance indicators
  - Incoming call resolution*
  - Incoming call abandon rate
  - Call completion rate
  - Call in-queue monitoring
  - Customer complaints
  - Customer satisfaction surveys

The system provides a planned, systematic program for defining, implementing, monitoring, and evaluating our services.

*Measured using Six Sigma defects per million (dpm) method.

HIPAA Compliance
Mayo Medical Laboratories is fully committed to compliance with all privacy, security, and electronic transaction code requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). All services provided by Mayo Medical Laboratories that involve joint efforts will be done in a manner which enables our clients to be HIPAA and the College of American Pathologists (CAP) compliant.

Infectious Material
The Centers for Disease Control (CDC) in its regulations of July 21, 1980, has listed organisms/diseases for which special packaging and labeling must be applied. Required special containers and packaging instructions can be obtained from us by using the “Request for Supplies” form or by ordering from the online Supply Catalog at mayomedicallaboratories.com/customer-service/supplies/index.php.

Shipping regulations require that infectious substances affecting humans be shipped in a special manner. See “Infectious Material.” A copy of the regulations can be requested from the International Air Transport Association (IATA); they may be contacted by phone at 514-390-6770 or faxed at 514-874-2660.

Informed Consent Certification
Submission of an order for any tests contained in this catalog constitutes certification to Mayo Medical Laboratories by ordering physician that: (1) ordering physician has obtained “Informed Consent” of subject patient as required by any applicable state or federal laws with respect to each test ordered; and (2) ordering physician has obtained from subject patient authorization permitting Mayo Medical Laboratories to report results of each test ordered directly to ordering physician.
On occasion, we forward a specimen to an outside reference laboratory. The laws of the state where the reference laboratory is located may require written informed consent for certain tests. Mayo Medical Laboratories will request that ordering physician pursue and provide such consent. Test results may be delayed or denied if consent is not provided.

Non-Biologic Specimens
Due to the inherent exposure risk of non-biologic specimens, their containers, and the implied relationship to criminal, forensic, and medico-legal cases, Mayo Medical Laboratories does not accept nor refer non-biologic specimen types. Example specimens include: unknown solids and liquids in the forms of pills, powder, intravenous fluids, or syringe contents.

Patient Safety Goals
One of The Joint Commission National Patient Safety goals for the Laboratory Services Program is to improve the accuracy of patient identification by using at least 2 patient identifiers when providing care, treatment, or services.

Mayo Medical Laboratories uses multiple patient identifiers to verify the correct patient is matched with the correct specimen and the correct order for the testing services. As a specimen is received at Mayo Medical Laboratories, the client number, patient name, and patient age date of birth are verified by comparing the labels on the specimen tube or container with the electronic order and any paperwork (batch sheet or form) which may accompany the specimen to be tested. When discrepancies are identified, the Mayo Laboratory call center will call the client to verify discrepant information to assure Mayo Medical Laboratories is performing the correct testing for the correct patient. When insufficient or inconsistent identification is submitted, Mayo Medical Laboratories will recommend that a new specimen be obtained, if feasible.

In addition, Anatomic Pathology consultation services require the Client Pathology Report. The pathology report is used to match the patient name, patient age and/or date of birth, and pathology case number. Since tissue blocks and slides have insufficient space to print the patient name on the block, the pathology report provides Mayo Medical Laboratories another mechanism to confirm the patient identification with the client order and labels on tissue blocks and slides.

Parallel Testing
Parallel testing may be appropriate in some cases to re-establish patient baseline results when converting to a new methodology at Mayo Medical Laboratories. Contact your Regional Manager at 800-533-1710 or 507-266-5700 for further information.

Proficiency Testing
We are a College of American Pathologists (CAP)-accredited, CLIA-licensed facility that voluntarily participates in many diverse external and internal proficiency testing programs. It is Mayo Medical Laboratories’ expectation that clients utilizing our services will adhere to CLIA requirements for proficiency testing (42 CFR 493.801), including a prohibition on discussion about samples or results and sharing of proficiency testing materials with Mayo Medical Laboratories during the active survey period.

Mayo Medical Laboratories’ proficiency testing includes participation in CMS-approved programs. Mayo Medical Laboratories also performs alternative assessment using independent state, national, and international programs when proficiency testing is not available. Mayo Medical Laboratories also conducts comparability studies to ensure the accuracy and reliability of patient testing, when necessary. We comply with the regulations set forth in Clinical Laboratory Improvement Amendments (CLIA-88), the Occupational Safety and Health Administration (OSHA), or the Centers for Medicare & Medicaid Services (CMS).

It is Mayo Medical Laboratories’ expectation that clients utilizing our services will adhere to CLIA requirements for proficiency testing including a prohibition on discussion about samples or results and sharing...
of proficiency testing materials with Mayo Medical Laboratories during the active survey period. Referring of specimens is acceptable for comparison purposes when an approved proficiency-testing program is not available for a given analyte.

**Radioactive Specimens**
Specimens from patients receiving radioactive tracers or material should be labeled as such. All incoming shipment arriving at Mayo Medical Laboratories are routed through a detection process in receiving to determine if the samples have any levels of radioactivity. If radioactive levels are detected, the samples are handled via an internal process that assures we do not impact patient care and the safety of our respective staff. This radioactivity may invalidate the results of radioimmunoassays (RIA).

**Record Retention**
Mayo Medical Laboratories retains all test requisitions and patient test results at a minimum for the retention period required to comply with and adhere to the CAP. A copy of the original report can be reconstructed including reference ranges, interpretive comments, flags, and footnotes with the source system as the Department of Laboratory Medicine’s laboratory information system.

**Referral of Tests to Another Laboratory**
Mayo Medical Laboratories forwards tests to other laboratories as a service to its clients. This service should in no way represent an endorsement of such test or referral laboratory or warrant any specific performance for such test. Mayo Medical Laboratories will invoice for all testing referred to another laboratory at the price charged to Mayo Medical Laboratories. In addition, Mayo Medical Laboratories will charge an administrative fee per test for such referral services.

**Reflex Testing**
Mayo Medical Laboratories identifies tests that reflex when medically appropriate. In many cases, Mayo Medical Laboratories offers components of reflex tests individually as well as together. Clients should familiarize themselves with the test offerings and make a decision whether to order a reflex test or an individual component. Clients, who order a reflex test, can request to receive an “Additional Testing Notification Report” which indicates the additional testing that has been performed. This report will be faxed to the client. Clients who wish to receive the “Additional Testing Notification Report” should contact their Regional Manager or Regional Service Representative.

**Reportable Disease**
Mayo Medical Laboratories, in compliance with and adherence to the College of American Pathologists (CAP) Laboratory General Checklist (CAP GEN. 20373) strives to comply with laboratory reporting requirements for each state health department regarding reportable disease conditions. We report by mail, fax, and/or electronically, depending upon the specific state health department regulations. Clients shall be responsible for compliance with any state specific statutes concerning reportable conditions, including, but not limited to, birth defects registries or chromosomal abnormality registries. This may also include providing patient address/demographic information. Mayo Medical Laboratories’ reporting does not replace the client/physician responsibility to report as per specific state statutes.

**Request for Physician Name and Number**
Mayo Medical Laboratories endeavors to provide high quality, timely results so patients are able to receive appropriate care as quickly as possible. While providing esoteric reference testing, there are times when we need to contact the ordering physician directly. The following are 2 examples:

When necessary to the performance of a test, the ordering physician’s name and phone number are requested as part of “Specimen Required.” This information is needed to allow our physicians to make timely consultations or seek clarification of requested services. If this information is not provided at the time of specimen receipt, we will call you to obtain the information. By providing this information up front,

Master copies are retained online. Printed copies are considered current only on the date printed unless stamped Controlled.
delays in patient care are avoided.

In some situations, additional information from ordering physician is necessary to clarify or interpret a test result. At that time, Mayo Medical Laboratories will request physician’s name and phone number so that one of our staff can consult with the physician.

We appreciate your rapid assistance in supplying us with the ordering physician’s name and phone number when we are required to call. Working together, we can provide your patients with the highest quality testing services in the shortest possible time.

**Special Handling**

Mayo Medical Laboratories serves as a reference laboratory for clients around the country and world. Our test information, including days and time assays are performed as well as analytic turnaround time, is included under each test listing in the Test Catalog on mayomedicallaboratories.com. Unique circumstances may arise with a patient resulting in a physician request that the specimen or results receive special handling. There are several options available. These options can only be initiated by contacting Mayo Laboratory Inquiry at 800-533-1710 and providing patient demographic information.

There is a nominal charge associated with any special handling.

- **Hold:** If you would like to send us a specimen and hold that specimen for testing pending initial test results performed at your facility, please call Mayo Laboratory Inquiry. We will initiate a hold and stabilize the specimen until we hear from you.
- **Expedit:** If you would like us to expedite the specimen to the performing laboratory, you can call Mayo Laboratory Inquiry and request that your specimen be expedited. Once the shipment is received in our receiving area, we will deliver the specimen to the performing laboratory for the next scheduled analytic run. We will not set up a special run to accommodate an expedite request.
- **STAT:** In rare circumstances, STAT testing from the reference laboratory may be required for patients who need immediate treatment. These cases typically necessitate a special analytic run to turn results around as quickly as possible. To arrange STAT testing, please have your pathologist, physician, or laboratory director call Mayo Laboratory Inquiry. He/she will be connected with one of our medical directors to consult about the patient’s case. Once mutually agreed upon that there is a need for a STAT, arrangements will be made to assign resources to run the testing on a STAT basis when the specimen is received.

**Specimen Identification Policy**

In compliance with and adherence to the CAP and the Joint Commission’s 2008 Patient Safety Goals (1A), Mayo Medical Laboratories’ policy states that all specimens received for testing must be correctly and adequately labeled to assure positive identification. Specimens must have 2 person-specific identifiers on the patient label. Person-specific identifiers may include: accession number, patient’s first and last name, unique identifying number (eg, medical record number), or date of birth. Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and information accompanying the specimen (eg, computer system, requisition form, additional paperwork).

When insufficient or inconsistent identification is submitted, Mayo Medical Laboratories will recommend that a new specimen be obtained, if feasible.

**Specimen Rejection**

All tests are unique in their testing requirements. To avoid specimen rejection or delayed turnaround times, please check the “Specimen Required” field within each test. You will be notified of rejected or problem specimens upon receipt.

Please review the following conditions prior to submitting a specimen to Mayo Medical Laboratories:
Specimen Volume
The “Specimen Required” section of each test includes 2 volumes - preferred volume and minimum volume. Preferred volume has been established to optimize testing and allows the laboratory to quickly process specimen containers, present containers to instruments, perform test, and repeat test, if necessary. Many of our testing processes are fully automated; and as a result, this volume allows hands-free testing and our quickest turnaround time (TAT). Since patient values are frequently abnormal, repeat testing, dilutions, or other specimen manipulations often are required to obtain a reliable, reportable result. Our preferred specimen requirements allow expeditious testing and reporting.

When venipuncture is technically difficult or the patient is at risk of complications from blood loss (eg, pediatric or intensive care patients), smaller volumes may be necessary. Specimen minimum volume is the amount required to perform an assay once, including instrument and container dead space.

When patient conditions do not mandate reduced collection volumes, we ask that our clients submit preferred volume to facilitate rapid, cost-effective, reliable test results. Submitting less than preferred volume may negatively impact quality of care by slowing TAT, increasing the hands-on personnel time (and therefore cost) required to perform test.

Mayo Clinic makes every possible effort to successfully test your patient’s specimen. If you have concerns about submitting a specimen for testing, please call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700. Our staff will discuss the test and specimen you have available. While in some cases specimens are inadequate for desired test, in other cases, testing can be performed using alternative techniques.

Supplies
Shipping boxes, specimen vials, special specimen collection containers, and request forms are supplied without charge. Supplies can be requested using one of the following methods: use the online ordering functionality available at mayomedicallaboratories.com/supplies or call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.

Test Classifications
Analytical tests offered by Mayo Medical Laboratories are classified according to the FDA labeling of the test kit or reagents and their usage. Where appropriate, analytical test listings contain a statement regarding these classifications, test development, and performance characteristics. The classifications include:

- **FDA-PMI**: FDA Cleared, Approved, or Exempt, Used Per Manufacturer’s Instructions- This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

- **M-LDT**: Modified FDA Cleared or Approved Test- This test has been modified from the
manufacturer’s instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

- **ASR-LDT: Laboratory Developed Test Using an Analyte Specific Reagent** - This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

- **LDT: Laboratory Developed Test** - This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

- **T-LDT: Laboratory Developed Test Using a Traditional Method** - This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

- **EUA: Emergency Use Authorization** - This test has received Emergency Use Authorization (EUA) by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**Test Development Process**

Mayo Medical Laboratories serves patients and health care providers from Mayo Clinic, Mayo Health System, and our reference laboratory clients worldwide. We are dedicated to providing clinically useful, cost-effective testing strategies for patient care. Development, validation, and implementation of new and improved laboratory methods are major components of that commitment.

Each assay utilized at Mayo Clinic, whether developed on site or by others, undergoes an extensive validation and performance documentation period before the test becomes available for clinical use. Validations follow a standard protocol that includes:

- Accuracy
- Precision
- Sensitivity
- Specificity and interferences
- Reportable range
- Linearity
- Specimen stability
- Specimen type comparisons
- Urine preservative studies: stability at ambient, refrigerated, and frozen temperatures and with 7 preservatives; at 1, 3, and 7 days
- Comparative evaluation: with current and potential methods
- Reference values: using medically evaluated healthy volunteers, male and female, across age groups. The number of observations required for each test is determined by biostatistic analysis. Unless otherwise stated, reference values provided by Mayo Medical Laboratories are derived from studies performed in our laboratories. When reference values are obtained from other sources, the source is indicated in the “Reference Values” field.
- Workload recording
- Limitations of the assay
- Clinical utility and interpretation: written by Mayo Clinic medical experts, electronically available (MayoAccess™)
Test Result Call-Backs
Results will be phoned to a client when requested from the client (either on Mayo Medical Laboratories’ request form or from a phone call to Mayo Medical Laboratories from the client).

Time-Sensitive Specimens
Please contact Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 prior to sending a specimen for testing of a time-sensitive nature. Relay the following information: facility name, account number, patient name and/or Mayo Medical Laboratories’ accession number, shipping information (ie, courier service, FedEx®, etc.), date to be sent, and test to be performed. Place specimen in a separate Mayo Medical Laboratories’ temperature appropriate bag. Please write “Expedite” in large print on outside of bag.

Turnaround Time (TAT)
Mayo Medical Laboratories’ extensive test menu reflects the needs of our own health care practice. We are committed to providing the most expedient TAT possible to improve diagnosis and treatment. We consider laboratory services as part of the patient care continuum wherein the needs of the patient are paramount. In that context, we strive to fulfill our service obligations. Our history of service and our quality metrics will document our ability to deliver on all areas of service including TAT.

Mayo Medical Laboratories defines TAT as the analytical test time (the time from which a specimen is received at the testing location to time of result) required. TAT is monitored continuously by each performing laboratory site within the Mayo Clinic Department of Laboratory Medicine and Pathology. For the most up-to-date information on TAT for individual tests, please visit us at mayomedicallaboratories.com or contact our Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.

Unlisted Tests
Mayo Medical Laboratories does not list all available test offerings in the paper catalog. New procedures are developed throughout the year; therefore, some tests are not listed in this catalog. Although we do not usually accept referred tests of a more routine type, special arrangements may be made to provide your laboratory with temporary support during times of special need such as sustained instrumentation failure. For information about unlisted tests, please call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.
## RELATED DOCUMENTS

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<thead>
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## REVISION/DOCUMENT HISTORY

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<th>Version</th>
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<td>001</td>
<td>Created and assigned # 056279. Entered DLMP document control.</td>
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<tr>
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<td>Updated current test classifications, added section on extracted specimens per CAP MOL.32427, modified proficiency testing section</td>
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## REVIEW AND APPROVAL SIGNATURES

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1,25-Dihydroxyvitamin D, Serum

**Specimen Requirements:**
- **Patient Preparation:** Fasting (4-hour preferred but not required)
- **Container/Tube:** Preferred: Serum gel Acceptable: Red top
- **Specimen Volume:** At least 1.5 mL

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 7 days

**CPT Code Information:** 82652

11-Deoxycorticosterone, Serum

**Specimen Requirements:**
- **Container/Tube:** Preferred: Red top Acceptable: Serum gel
- **Specimen Volume:** 0.5 mL
- **Collection Instructions:** Morning (8 a.m.) specimen is preferred.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days
- Ambient 7 days

**CPT Code Information:** 82633

11-Deoxycortisol, Serum

**Specimen Requirements:**
- **Container/Tube:** Preferred: Red top Acceptable: Serum gel
- **Specimen Volume:** 0.5 mL
- **Collection Instructions:** Morning (8 a.m.) specimen is preferred.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82634

11-Desoxycortisol (Specific Compound S)

**Specimen Requirements:**
- Draw blood in a plain, red-top tube(s). Separate within one hour and send 1 mL of serum frozen in a plastic vial. Note: 1. Serum gel tube is acceptable, but must pour off into a plastic screw cap vial and freeze. 2. Minimum volume does not permit for repeat analysis.

**Specimen Minimum Volume:** Pediatric minimum only: 0.2 mL

**Note:** Does not permit repeat analysis.
ThcMX

11-nor-Delta-9-Tetrahydrocannabinol-9-Carboxylic Acid (Carboxy-THC) Confirmation, Chain of Custody, Meconium

Specimen Requirements: Container/Tube: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required. Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: 1. Specimen that arrives with a broken seal does not meet the chain of custody requirements. 2. The laboratory recommends sending chain-of-custody specimens by overnight shipment.

Specimen Minimum Volume: 0.3 g (approximately 1/4 teaspoon)

Transport Temperature:
Meconium Frozen (preferred) 28 days
Refrigerated 21 days
Ambient 14 days

CPT Code Information: 82634

ThcM

11-nor-Delta-9-Tetrahydrocannabinol-9-Carboxylic Acid (Carboxy-THC) Confirmation, Meconium

Specimen Requirements: Supplies: Stool container. Small (Random), 4 oz (T288) Container/Tube: Stool container (T288) Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen.

Specimen Minimum Volume: 0.3 g (approximately 1/4 teaspoon)

Transport Temperature:
Meconium Frozen (preferred) 28 days
Refrigerated 21 days
Ambient 14 days

CPT Code Information: 80349; G0480 (if appropriate);

P1433

14-3-3 Protein, Spinal Fluid

Specimen Requirements: Collection Container/Tube: Sterile vial Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Obtain aliquot from second collection vial. 2. Hemolyzed specimens will give false-positive results. Specimens should be centrifuged to remove any red cells before shipping. The test will be canceled if there is any level of hemolysis present. 3. Immediately place aliquot on ice. Additional Information: 1. Specimens that have not been kept refrigerated, or which have been tested for other analytes previously, may give a false-positive result. 2. Separate specimens should be submitted when multiple tests are ordered. This will reduce the risk of test cancellation due to stability problems.
**Specimen Minimum Volume:** 1 mL CSF on ice; Pediatric or minimum volume: 0.6 mL CSF on ice

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 83520

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**17OHBP**

**17-Hydroxypregnenolone, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top Acceptable: Serum gel
- Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 28 days
- Refrigerated 28 days

**CPT Code Information:** 84143

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**OHPG**

**17-Hydroxyprogesterone, Serum**

**Specimen Requirements:**
- Container/Tube: Red top Specimen Volume: 0.6 mL Additional Information: Indicate patient's age and sex.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 7 days

**CPT Code Information:** 83498

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**GLIOF**

**1p/19q Deletion in Gliomas, FISH, Tissue**

**Specimen Requirements:**
- Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Six consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Four consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated
CPT Code Information: 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

BPGMM

2,3-Bisphosphoglycerate Mutase, Full Gene Sequencing Analysis

Specimen Requirements: Submit only 1 of the following specimens: Patient Preparation: Bone marrow transplants preclude accurate germline and mutation analysis. Please inform the laboratory if this patient has undergone bone marrow transplantation. On rare occasions transfusion of blood products can preclude accurate mutation analysis and results should be interpreted with caution if performed after recent transfusion (within 4 months). Specimen Type: Peripheral blood Collection Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top), Heparin (green top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in the original tube. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA from whole blood Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood and provide indication of volume and concentration of the DNA Specimen Stability: Frozen (preferred)/Refrigerate/Ambient

Specimen Minimum Volume: 1 mL

Transport Temperature: Varies Varies 7 days

CPT Code Information: 81479-Unlisted Molecular Pathology procedure

23BPG

2,3-Dinor-11Beta-Prostaglandin F2 Alpha, Urine


Specimen Minimum Volume: 3 mL

Transport Temperature:

Urine Refrigerated (preferred) 14 days

Frozen 30 days

Ambient 8 hours

CPT Code Information: 84150

21DOC

21-Deoxycortisol, Serum

CPT Code Information: 89477
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Collection Instructions: Morning (8 a.m.) specimen is preferred.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days
- Ambient 14 days

**CPT Code Information:** 82542

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**OH21 81970**

**21-Hydroxylase Antibodies, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.19 mL

**Transport Temperature:**
- Serum Frozen (preferred) 14 days
- Refrigerated 7 days

**CPT Code Information:** 83519

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**CYPZ 37445**

**21-Hydroxylase Gene (CYP21A2), Full Gene Analysis**

**Specimen Requirements:** Specimen Type: Whole Blood Container/Tube: Preferred: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Prenatal Specimens Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Amniotic Fluid: 10 mL; Blood: 1 mL; Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81405-CYP21A2 (cytochrome P450, family 21, subfamily A, polypeptide2) (eg, steroid 21-hydroxylase isoform, congenital adrenal hyperplasia), full gene sequence ; 81402-CYP21A2 (cytochrome P450, family 21, subfamily A, polypeptide2) (eg, congenital adrenal hyperplasia, 21-hydroxylase deficiency), common variants (eg, IVS2-13G, P30L, I172N, exon 6 mutation cluster [I235N, V236E, M238K], V281L, L307FisX6, Q318X, R356W, P453S, G110VfsX21, 30-kb deletion variant); ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ; Amniotic Fluid Culture/Genetic Test;
Specimen Requirements: Submit only 1 of the following specimens: Supplies: Refrigerate/Ambient Mailer, 5 lb (T329) Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20-25 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. Provide gestational age at the time of amniocentesis. 2. Discard the first 2 mL of amniotic fluid. 3. Place the tubes in a Refrigerate/Ambient Mailer, 5 lb (T329). 4. Fill remaining space with packing material. Additional Information: 1. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 2. Bloody specimens are undesirable. 3. If the specimen does not grow in culture, you will be notified within 7 days of receipt. 4. Results will be reported and also telephoned or faxed, if requested. Supplies: Hank's Solution (T132) Specimen Type: Autopsy Container/Tube: Sterile container with sterile Hank's solution (T132), Ringer's solution, or normal saline Specimen Volume: 1 cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis. Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Supplies: CVS Media (RPMI) and Small Dish (T095) Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20-25 mg Collection Instructions: 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer chorionic villi to a Petri dish containing transport medium (such as CVS Media (RPMI) and Small Dish [T095]). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua. Specimen Type: Fixed cell pellet Container/Tube: Sterile container with a 3:1 fixative (methanol:glacial acetic acid) Specimen Volume: Entire specimen Collection Instructions: If a fetus cannot be specifically identified, collect villus material or tissue that appears to be of fetal origin. Additional Information: Do not send entire fetus. Supplies: Hank's Solution (T132) Specimen Type: Products of conception or stillbirth Container/Tube: Sterile container with sterile Hank's solution (T132), Ringer's solution, sterile RPMI transport media, or normal saline Specimen Volume: 1 cm(3) of placenta (including 20 mg of chorionic villi) and a 1-cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: If a fetus cannot be specifically identified, collect villus material or tissue that appears to be of fetal origin. Additional Information: Do not send entire fetus. Supplies: Hank's Solution (T132) Specimen Type: Skin biopsy Container/Tube: Sterile container with sterile Hank's solution (T132), Ringer's solution, or normal saline Specimen Volume: 1-cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis.

Specimen Minimum Volume: Amniotic Fluid: 5 mL; Autopsy, Skin Biopsy: 4 mm; Blood: 2 mL; Chorionic Villi: 5 mg; Fixed Cell Pellet: 1 pellet; Products of Conception: 1 cm(3)

Transport Temperature: Varies Refrigerated (preferred)

Ambient

CPT Code Information: 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271 x 1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88273 w/modifier 52-Chromosomal in situ hybridization, less than 10 cells (if
appropriate); 88273-Chromosomal in situ hybridization, 10-30 cells (if appropriate); 88274 w/modifier
52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ
hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to
300 cells, each probe set (if appropriate);

25HDN
25-Hydroxyvitamin D2 and D3, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.5 mL.

Specimen Minimum Volume: 0.25 mL.

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
  - Frozen 30 days
  - Ambient 7 days

CPT Code Information: 82306

2425D
25-Hydroxyvitamin D:24,25-Dihydroxyvitamin D Ratio, Serum

Specimen Requirements: Container/Tube: Preferred: Red top Specimen Volume: 3 mL
Collection Instructions: Spin down within 2 hours of draw.

Specimen Minimum Volume: 1.1 mL

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
  - Frozen 30 days
  - Ambient 7 days

CPT Code Information: 82306; 82542;

F5NUL
5'Nucleotidase

Specimen Requirements: Specimen Type: Serum Container/Tube: SST or Red Specimen Volume: 1 mL. Collection Instructions: Draw blood in a serum gel tube(s), plain red-top tube(s) is acceptable. Spin down and send 1 mL of serum refrigerate in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
- Serum Refrigerated (preferred) 7 days
  - Frozen 14 days
  - Ambient 4 hours

CPT Code Information: 83915

MTHAC 5,10-Methylenetetrahydrofolate Reductase A1298C, Mutation,
Blood

Specimen Requirements: Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Lavender top (EDTA) or blue top (sodium citrate) Specimen Volume: Full tube Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL blood in a 3 mL ACD tube

Transport Temperature:
Whole blood Ambient (preferred) 7 days
Frozen 14 days
Refrigerated 14 days

CPT Code Information: 81291-MTHFR (5,10-methylenetetrahydrofolate reductase) (eg, hereditary hypercoagulability) gene analysis, common variants (eg, 677T, 1298C)

MTHFR 81648

5,10-Methylenetetrahydrofolate Reductase C677T, Mutation, Blood

Specimen Requirements: Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Lavender top (EDTA) or blue top (sodium citrate) Specimen Volume: Full tube Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL in a 3-mL ACD tube

Transport Temperature:
Whole blood Ambient (preferred) 7 days
Frozen 14 days
Refrigerated 14 days

CPT Code Information: 81291-MTHFR (5,10-methylenetetrahydrofolate reductase) (eg, hereditary hypercoagulability) gene analysis, common variants (eg, 677T, 1298C)
5-Flucytosine, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Collection Instructions: 1. Serum for a peak level should be drawn 1 to 2 hours after oral dose or 30 minutes after intravenous infusion. Trough specimens should be drawn immediately prior to next scheduled dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80299

5-HIAA (5-Hydroxyindoleacetic Acid), Random Urine

**Specimen Requirements:** 10 mL random urine, after collection add 6N HCL to maintain a pH below 3. Submit in a sterile screw capped container shipped ambient. Note: 1. Urine without preservative is acceptable if pH is below 6 and shipped frozen. 2. Dietary Instructions: - Patient should avoid food high in indoles: avocado, banana, tomato, plum, walnut, pineapple, and eggplant. - Patient should also avoid tobacco, tea and coffee three days prior to specimen collection.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Urine Ambient (preferred) 7 days
- Frozen 30 days
- Refrigerated 30 days

**CPT Code Information:** 82570/other source; 83497/Hydroxyindoleacetic acid, 5-(HIAA);

5-Hydroxyindoleacetic Acid (5-HIAA), 24 Hour, Urine

**Specimen Requirements:** Patient Preparation: 1. Some medications (see below) could interfere with test results. The ordering provider should decide if any medications should be stopped and when they should be restarted. 2. For 48 hours before patients start their urine collection and during the 24 hours they collect urine: Limit the following to 1 serving per day: -Fruits -Vegetables -Nuts -Caffeinated beverages or foods If clinically feasible, discontinue the following medications at least 48 hours before specimen collection: -Acetaminophen (Tylenol or generic versions) -Aspirin -Antihistamines -Cough syrups -Cold and flu medications Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a 24-hour urine specimen. 2. Add 25 mL of 50% acetic acid as preservative at start of collection. Use 15 mL of 50% acetic acid for children <5 years old. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 56 days
- Frozen 365 days
**5-Methyltetrahydrofolate**

**Specimen Requirements:** Medical Neurogenetics collection kit (T657) required. Each collection kit contains 5 microcentrifuge tubes. COLLECTION PROTOCOL: 1) CSF should be collected from the first drop into the tubes in the numbered order. Fill each tube to the marked line with the required volumes. Tube 1: 0.5 mL. Tube 2: 1.0 mL. Tube 3: 1.0 mL (contains antioxidants necessary to protect the sample integrity). Tube 4: 1.0 mL. Tube 5: 1.0 mL - If sample's are not blood contaminated, the tubes should be placed on dry ice at bedside. If sample's are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes, then frozen. - Store samples at -80 until they can be shipped. 2) Complete Medical Neurogenetics, LLC request form. Include test required, sample date and date of birth. 3) Label tubes with patient name and ID number, leaving the tube number viewable. 4) Place samples inside a specimen transport bag and the Medical Neurogenetics, LLC request form inside the pouch of the transport bag. 5) Ship samples frozen on dry ice.

**Transport Temperature:**

CSF Frozen

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**6-Monoacetylmorphine (6-MAM) Confirmation, Chain of Custody, Meconium**

**Specimen Requirements:** Supplies: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required. Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: Specimen that arrives with a broken seal does not meet the chain of custody requirements.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)

**Transport Temperature:**

Meconium Frozen 14 days

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**6-Monoacetylmorphine (6-MAM) Confirmation, Urine**

**Specimen Requirements:** Supplies: Urine Container, 60 mL (T313) Collection Container/Tube: Plastic, 60-mL urine container (T313) Specimen Volume: 20 mL. Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure.

**Specimen Minimum Volume:** 2.1 mL

**Transport Temperature:**

Urine Refrigerated (preferred) 14 days

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Frozen</td>
<td>14 days</td>
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<tr>
<td>Ambient</td>
<td>72 hours</td>
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</table>
6-Monoacetylmorphine (6-MAM), Chain of Custody, Urine

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

6-Monoacetylmorphine (6-MAM), Confirmation, Meconium

**Specimen Requirements:** Supplies: Stool container, Small (Random), 4 oz (T288) Container/Tube: Stool container (T288) Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: 1. Collect entire random meconium specimen. 2. Send specimen frozen. When refrigerated, a significant percentage of 6-MAM will convert to morphine in less than 24 hours.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)

**Transport Temperature:**
Meconium Frozen 14 days

65kD (hsp-70)

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 3 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 2.0 mL

**Transport Temperature:**
Serum Frozen (preferred) 365 days
- Refrigerated 5 days
- Ambient 48 hours

7AC4, Bile Acid Synthesis, Serum

**Specimen Requirements:** Patient Preparation: 1. Patient must be fasting for at least 12 hours;
Fasting morning specimen is preferred. 2. Patient should not be taking bile acid sequestrants or statins.

Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 90 days
- Refrigerated 72 hours
- Ambient 24 hours

**CPT Code Information:** 82542

**A1R 113437**

**A1 Antigen Subtype**

**Specimen Requirements:** Container/Tube: Pink top (EDTA) Submission Container/Tube: Original tube Collection Instructions: Send specimen in original tube.

**Specimen Minimum Volume:** Pediatric: 2 mL blood in 6 mL EDTA tube

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
- Ambient 72 hours

**CPT Code Information:** 86905

**ABONR 113498**

**ABO/Rh Newborn, RBC**

**Specimen Requirements:** Container/Tube: EDTA Micro tube Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 10 days
- Ambient 4 days

**CPT Code Information:** 86900-ABO Typing; 86901-Rh Typing;

**ABOMR 113490**

**ABORh, RBC**

**Specimen Requirements:** Container/Tube: Pink top (EDTA) Specimen Volume: 6 mL

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 10 days
- Ambient 4 days

**CPT Code Information:** 86900-ABO; 86901-Rh;
**Acacia, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Acanthamoeba species Molecular Detection, PCR, Ocular**

**Specimen Requirements:**
- The preferred specimen for Acanthamoeba PCR from an ocular source is corneal scraping or biopsy. Submit only 1 of the following specimens:
  - **Specimen Type:** Tissue: Fresh Sources: Ocular Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: Submit tissue in a sterile container with 1 mL of sterile saline, minimal essential media (MEM), or viral transport media.
  - **Specimen Type:** Tissue: Formalin-fixed paraffin-embedded (FFPE) Sources: Ocular Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: Cut tissue into five, 10-micron sections and place in a sterile container.
  - **Specimen Type:** Scrapings/Swabs Sources: Eye, ocular, cornea Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: 1. Collect corneal scrapings using a scalpel or other sharp device to remove the outer layer of cells from the eye. 2. Swish the collection device in 1 mL of sterile saline, minimal essential media (MEM), or viral transport media. 3. Remove the collection device from the collection container before submitting to the lab. 4. Specimens containing scalpel blades will be canceled. Additional Information: Swabs are not the preferred specimen for this test and may yield false-negative results.
  - **Specimen Type:** Contact lenses Container/Tube: Sterile container Specimen Volume: Entire collection Collection Instructions: 1. Place entire contact lens in a sterile container with 1 mL sterile saline, contact lenses solution, viral transport media, or minimal essential media (MEM). 2. Right and Left lenses must be submitted individually using multiple sterile containers or in the original contact lens case. Multiple orders must be created. 3. Indicate Right or Left in the specimen source.
  - **Specimen Type:** Contact lens solution Container/Tube: Sterile container Specimen Volume: 1 mL solution Specimen Type: Contact lens cases without lenses Container/Tube: Sterile container Specimen Volume: 1 mL solution or entire case Additional Information: 1. Depending on the type of case submitted, it may be necessary to test right and left chambers individually. Multiple orders must be created.

**Specimen Minimum Volume:**
- Tissue: 5 mm biopsy Scrapings: 0.5 mL Contact Lens Solution: 1 mL

**Transport Temperature:**
- Varies Refrigerated 7 days

**CPT Code Information:** 87798

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**Acarus siro, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL \( \times \) number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FACET**

57707

**Acetaminophen (Tylenol, Datril), Urine**

**Specimen Requirements:** Collect 10 mL random urine without preservatives. Ship refrigerated in a plastic container.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 72 hours

**CPT Code Information:** 80307; ;

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**ACMA**

37030

**Acetaminophen, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel Acceptable: Red top
- Specimen Volume: 0.5 mL
- Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 24 hours

**CPT Code Information:** 80307

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**FACTO**

90247

**Acetoacetate, Serum or Plasma**

**Specimen Requirements:**
- Submit only 1 of the following specimens: Serum
- Specimen Type: Serum Container/Tube: Red Specimen Volume: 3 mL
- Draw blood in a plain, red-top tube(s). Serum gel tube is not acceptable. Spin down and send 3 mL of serum frozen in a plastic vial. Plasma Specimen Type: Plasma Container/Tube: Lavender-top (EDTA) or pink-top tube(s). Specimen Volume: 3 mL
- Draw blood in a lavender-top (EDTA) or pink-top tube(s). Plasma gel tube is not acceptable. Spin down and send 3 mL of EDTA plasma frozen in a plastic vial.

**Specimen Minimum Volume:** 1.2 mL
**Transport Temperature:**
Varies Frozen (preferred) 29 days
Refrigerated 4 days

**CPT Code Information:** 82010

**ARB1**  
**8338**  
**Acetylcholine Receptor (Muscle AChR) Binding Antibody, Serum**

**Specimen Requirements:** Patient Preparation: This test should not be requested in patients who have recently received radioisotopes, therapeutically or diagnostically, because of potential assay interference. The specific waiting period before specimen collection will depend on the isotope administered, the dose given and the clearance rate in the individual patient. Specimens will be screened for radioactivity prior to analysis. Radioactive specimens received in the laboratory will be held 1 week and assayed if sufficiently decayed, or canceled if radioactivity remains. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 72 hours

**CPT Code Information:** 83519

**ACHE**  
**9287**  
**Acetylcholinesterase, Amniotic Fluid (AChE-AF), Amniotic Fluid**

**Specimen Requirements:** Container/Tube: Amniotic fluid container Specimen Volume: 1 mL
Collection Instructions: A specimen from the 14 to 18 week gestational period of pregnancy is preferred. Amniotic fluid from the 14 to 21 week gestational period is acceptable.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Amniotic Fld Refrigerated (preferred) 365 days
Frozen 365 days
Ambient 14 days

**CPT Code Information:** 82013

**ACHS**  
**8522**  
**Acetylcholinesterase, Erythrocytes**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated
CPT Code Information: 82482

**ASCL1**

Achaete-Scute Homolog 1 (ACSL1) (hASH1) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**GAABS**

Acid Alpha-Glucosidase, Blood Spot

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood spot collection card (T493) Acceptable: Ahlstrom 226 Filter Paper, Munktell TFN, and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. An alternative blood collection option for a patient >1 year of age is fingerstick. 3. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 4. Do not expose specimen to heat or direct sunlight. 5. Do not stack wet specimens. 6. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**
- Whole blood Ambient (preferred) 87 days
- Frozen 87 days
- Refrigerated 87 days

CPT Code Information: 82657

**SAFB**

Acid-Fast Smear for Mycobacterium

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Body fluid Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Bone marrow Container/Tube: SPS/Isolator System or green top (lithium heparin) Specimen Volume: Entire collection Specimen Type: Gastric washing Container/Tube: Sterile container Specimen Volume: 10 mL Collection Instructions: Neutralize specimen within 4 hours of collection with 100 mg of sodium carbonate per 5 to 10 mL of gastric wash. Specimen Type: Respiratory Sources: Bronchoalveolar lavage fluid, bronchial washing, sputum Container/Tube: Sterile container Specimen Volume: 4 mL Collection Instructions: Collect 3 respiratory specimens for acid-fast smears and culture in patients with clinical and chest X-ray findings compatible with tuberculosis. These 3 specimens should be collected at 8- to 24-hour intervals
(24 hours when possible) and should include at least 1 first-morning specimen. Specimen Type: Stool Supplies: Stool Collection Kit, Random (T635) Container/Tube: Sterile container Specimen Volume: 5-10 g Specimen Type: Tissue Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: Collect a fresh tissue specimen. Specimen Type: Urine Container/Tube: Sterile container Specimen Volume: 2 mL Collection Instructions: Collect a random urine specimen. Specimen Type: Swab Additional Information: Fresh tissue or body fluid is the preferred specimen type instead of a swab specimen. Recovery of mycobacteria and aerobic actinomycetes from swabs is variable. Sources: Wound, tissue, or body fluid Container/Tube: Culture transport swab (noncharcoal) Culturette Specimen Volume: Adequate specimen Collection Instructions: 1. Before collecting specimen, wipe away any excessive amount of secretion and discharge, if appropriate. 2. Obtain secretions or fluid from source with sterile swab. 3. If smear and culture are requested or both a bacterial culture and mycobacterial culture are requested, collect a second swab to maximize test sensitivity.

**Specimen Minimum Volume:** Varies; If mycobacterial culture is also requested, then 1.5 mL for body fluid, 3 mL for respiratory specimen, or a pea-sized piece of fresh tissue. If smear only is requested, then 0.5 mL for body fluid, 3 mL for respiratory specimen, or a pea-sized piece of fresh tissue.

**Transport Temperature:**

Varies Refrigerated (preferred) 7 days

Ambient 7 days

**CPT Code Information:** 87206; 87176-Tissue processing (if appropriate); 87015-Mycobacteria culture, concentration (if appropriate);

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**SMACN 70551**

**Actin, Smooth Muscle (SMActin) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**ACT 8221**

**Actinomyces Culture**

**Specimen Requirements:** Specimen Type: Abscesses, intrauterine devices, percutaneous transtracheal aspirates, sterile body fluids, suprapubic aspirations, wounds Supplies: Anaerobe Transport Tube (T588) Specimen Volume: Entire specimen

**Transport Temperature:**

Varies Ambient 72 hours

**CPT Code Information:** 87075-Actinomyces culture; 62258-Id MALDI-TOF Mass Spec Anaerobe (if appropriate); 87153-Anaerobe identification by sequencing (if appropriate); 87176-Tissue processing (if appropriate);
**Activated Partial Thromboplastin Time (APTT), Plasma**

**Specimen Requirements:** Only orderable as part of a coagulation consultation. For more information see 1 of the following: LUPPR / Lupus Anticoagulant Profile BDIAL / Limited Bleeding Diathesis Profile THRMP / Thrombophilia Profile PROCT / Prolonged Clot Time Profile

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

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**Activated Partial Thromboplastin Time (APTT), Plasma**

**Specimen Requirements:** Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (3.2% sodium citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down, remove plasma and spin plasma again. Additional Information: Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen (preferred) 30 days
Ambient 4 hours

**CPT Code Information:** 85730

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**Activated Protein C Resistance V (APCRV), Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma 2. Spin plasma again; remove plasma aliquot without disturbing bottom 0.5 mL 3. Freeze specimen aliquot immediately at or below -40°C, if possible but no longer than 4 hours after collection Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85307

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**Activated Protein C Resistance V (APCRV), with Reflex to Factor V Leiden, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Blood and plasma are required. Specimen Type: Whole blood Collection Container/Tube: Preferred: Yellow top (ACD) Acceptable: EDTA or sodium citrate Specimen Volume:
Full tube Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Each molecular coagulation test requested must have its own tube. Specimen Type: Platelet-poor plasma Patient Preparation: Fasting preferred Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze plasma aliquots immediately (no longer than 4 hours after collection) at -20°C, or, ideally < or =-40 degrees C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** Plasma: 0.5 mL Whole Blood: 3 mL

**Transport Temperature:**

| Plasma Na Cit | Frozen | 14 days |
| Whole blood | Ambient (preferred) | 7 days |
| Frozen | 14 days |
| Refrigerated | 14 days |

**CPT Code Information:** 85307

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**Acute Hepatitis Profile**

**Specimen Requirements:** Both 0.5 mL of refrigerated serum and 2.5 mL of frozen serum are required for this test. Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 3 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**

| Serum | Refrigerated | 5 days |
| Serum SST | Frozen (preferred) | 30 days |
| Refrigerated | 5 days |

**CPT Code Information:** 80074 (if all 4 initial tests are performed); 86709 (if all 4 are not performed); 86705 (if all 4 are not performed); 87340 (if all 4 are not performed); 86803 (if all 4 are not performed); 87522 (if appropriate); 87341 (if appropriate);

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**Acute Myeloid Leukemia (AML), FISH**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL; Bone Marrow: 1 mL

**Transport Temperature:**

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**APPAN 35353**

**Acute Porphyria, Multi-Gene Panel**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 3

**Transport Temperature:**

Varies

**CPT Code Information:** 81405-CPOX; 81406-HMBS; 81406-PPOX; 88233-(if appropriate); 88240-(if appropriate);

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**FACY 90308**

**Acyclovir, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL of serum refrigerate in preservative-free plastic vial. Note: Label specimen appropriately (serum). Plasma Draw blood in a purple-top EDTA or pink-top tube(s). (Plasma gel tube is not acceptable.) Spin down and send 1 mL of EDTA plasma refrigerate in preservative-free plastic vial. Note: Label specimen appropriately (plasma).

**Specimen Minimum Volume:** 0.5 mL
**Transport Temperature:**
Varies Refrigerated (preferred) 30 days
- Frozen 120 days
- Ambient 30 days

**CPT Code Information:** 80375

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**ACRN 82413**

**Acylcarnitines, Quantitative, Plasma**

**Specimen Requirements:** Specimen Type: Plasma Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Lavender top (EDTA) or lithium heparin Submission Container/Tube: Plastic vial Specimen Volume: 0.1 mL Collection Instructions: Draw specimen just prior to a scheduled meal or feeding.

**Specimen Minimum Volume:** 0.04 mL

**Transport Temperature:**
Plasma Frozen (preferred) 92 days
- Refrigerated 64 days
- Ambient 8 days

**CPT Code Information:** 82017

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**ACRNS 60644**

**Acylcarnitines, Quantitative, Serum**

**Specimen Requirements:** Specimen Type: Serum Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.1 mL Collection Instructions: Draw specimen just prior to a scheduled meal or feeding.

**Specimen Minimum Volume:** 0.04 mL

**Transport Temperature:**
Serum Frozen (preferred) 60 days
- Refrigerated 21 days
- Ambient 72 hours

**CPT Code Information:** 82017

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**ACYLG 81249**

**Acylglycines, Quantitative, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 10 mL Pediatric: If insufficient collection volume, submit as much specimen as possible in a single container; the laboratory will determine if volume is sufficient for testing. Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 4 mL

**Transport Temperature:**
Urine Frozen (preferred) 416 days
**ADALX**  
64863  
**Adalimumab Quantitative with Reflex to Antibody, Serum**  
**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top  
**Specimen Volume:** 0.5 mL  
**Specimen Minimum Volume:** 0.35 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 28 days  
**CPT Code Information:** 82542

**ADM13**  
61212  
**ADAMTS13 Activity and Inhibitor Profile**  
**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Fasting preferred  
Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials  
**Specimen Volume:** 2 mL in 2 plastic vials each containing 1 mL  
**Collection Instructions:** 1. Specimen must be drawn prior to replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at -20°C or, ideally, < or =-40°C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.  
**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:** Plasma Na Cit Frozen 14 days  
**CPT Code Information:** 85397-ADAMTS13 activity assay; 85335-ADAMTS13 inhibitor screen assay (if appropriate); 85335-ADAMTS13 Bethesda titer (if appropriate);

**ADMBU**  
61214  
**ADAMTS13 Inhibitor Bethesda Titer**  
**Specimen Requirements:** Only orderable as part of a profile. For more information see ADM13 / ADAMTS13 Activity and Inhibitor Profile.  
**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:** Plasma Na Cit Frozen 14 days  
**CPT Code Information:** 85335

**ADMIS**  
61213  
**ADAMTS13 Inhibitor Screen Assay**
**Specimen Requirements:** Only orderable as part of a profile. For more information see ADM13 / ADAMTS13 Activity and Inhibitor Profile.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85335

**ADSTM 62206**

**Additional Flow Stimulant (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient

**CPT Code Information:** 86353

**AGSTM 62208**

**Additional Flow Stimulant, LPAGF (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient

**CPT Code Information:** 86353

**MGSTM 62207**

**Additional Flow Stimulant, LPMGF (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient

**CPT Code Information:** 86353

**VID2 45455**

**Additional Testing Virus Ident**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
Varies Varies

**CPT Code Information:** 87253

**FADDB 57876**

**Adenosine Deaminase, Blood**

**Specimen Requirements:** Specimen Type: Whole Blood Container/Tube: Lavender top (EDTA)
Specimen volume: 4 mL  
**Collection Instructions:** Send 4 mL whole blood in original tube refrigerated

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA  Refrigerated (preferred)  20 days  
Ambient  5 days

**CPT Code Information:** 84311

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**Adenosine Deaminase, CSF**

**Specimen Requirements:** Collect CSF in a leak-proof container. Send 0.3 mL Frozen. Note: 1. Centrifuge specimen at room temperature. Collect the specimen supernatant and freeze at -20°C. Specimen must remain frozen until received in lab. 2. Indicate source. 3. Unacceptable: Turbid specimens, whole blood, bronchoalveolar Lavage (BAL)

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
CSF  Frozen (preferred)  30 days  
Refrigerated  7 days  
Ambient  2 hours

**CPT Code Information:** 84311

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**Adenosine Deaminase, Pericardial Fluid**

**Specimen Requirements:** Specimen Type: Pericardial Fluid Sources: Pericardial Fluid Container/Tube: Standard Transport Tube Specimen Volume: 0.3 mL  
Collection Instructions: Collect Pericardial Fluid in a leak-proof container. Centrifuge specimen at room temperature, transfer 0.3 mL pericardial fluid to plastic vial and freeze. Note: 1. Source required 2. Specimen must remain frozen until received at performing lab.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
Body Fluid  Frozen (preferred)  30 days  
Refrigerated  7 days  
Ambient  2 hours

**CPT Code Information:** 84311

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**Adenosine Deaminase, Peritoneal Fluid**

**Specimen Requirements:** Specimen Type: Peritoneal fluid Sources: Container/Tube: Standard transport container Specimen volume: 0.3 mL  
Collection Instructions: Collect Peritoneal Fluid in a leak-proof container. Centrifuge specimen at room temperature, transfer 0.3 mL peritoneal fluid to plastic vial and Ship frozen. Note: 1. Source required 2. Specimen must remain frozen until received at performing lab.

Current as of October 16, 2018 7:53 pm CDT   800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Peritoneal Frozen (preferred) 30 days
  - Refrigerated 7 days
  - Ambient 2 hours

**CPT Code Information:** 84311

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**Adenosine Deaminase, Pleural Fluid**

**Specimen Requirements:** Specimen Type: Pleural Fluid Sources: Pleural Fluid Container/Tube: Standard Transport Tube Specimen Volume: 0.3 mL Collection Instructions: Collect Pleural fluid in a leak proof container; centrifuge specimen at room temperature, transfer 0.3 mL to standard tube and freeze. Ship frozen. Note: 1.Source is required. 2. Specimen must remain frozen until received at performing lab.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Pleural Fluid Frozen (preferred) 30 days
  - Refrigerated 7 days
  - Ambient 2 hours

**CPT Code Information:** 84311

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**Adenovirus DNA, Quantitative Real-Time PCR**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Supplies: BBL CultureSwab, viral transport media Specimen Type: Swab Sources: Throat, nasopharyngeal Container/Tube: M4, V-C-M (green cap), or equivalent Container/Tube: Collection Instructions: Place swab into viral transport media. Specimen Type: Respiratory Sources: Bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate Container/Tube: Sterile container Specimen Volume: 0.85 mL Other acceptable specimens: Specimen Type: Fluid Source: Spinal Fluid Container/Tube: Sterile Vial Specimen Volume: 0.85mL Specimen Type: Urine Container/Tube: Sterile container Specimen Volume: 0.85 mL Specimen Type: Whole Blood or Bone Marrow Container/Tube: Lavender top (EDTA) or yellow-top (ACD) Specimen Volume: 0.85 mL Additional Information: Draw blood in a lavender-top (EDTA) tube(s) or yellow-top (ACD) tube(s) and send 0.85 whole blood refrigerated (DO NOT FREEZE). Specimen Type: Serum Collection Container/Tube: Red or SST Submission Container/Tube: 12x75 mm screw capped vial Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL serum in a screw-capped vial, shipped refrigerated. Specimen Type: Plasma Collection Container/Tube: yellow-top (ACD) or lavender-top (EDTA) Submission Container/Tube: 12x75 mm screw capped vial Specimen Volume: 1 mL Collection Instructions: Draw blood in a yellow-top (ACD) or lavender-top (EDTA) tube(s). Spin down and transfer 1 mL ACD or EDTA plasma into a plastic, screw-top vial. Send specimen refrigerated.

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
  - Frozen 30 days
**Adenovirus Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 87799

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**Adenovirus, Molecular Detection, PCR**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Body fluid Sources: Pleural, peritoneal, ascites, pericardial, or amniotic Container/Tube: Sterile container Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Specimen Type: Respiratory Sources: Bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Specimen Type: Stool Supplies: Stool Collection Kit, Random (T635) Container/Tube: Sterile container Specimen Volume: 1 g Specimen Type: Swab Supplies: M4-RT (T605) Sources: Nasal, throat, respiratory, genital, or ocular Container/Tube: Multimicrobe media (M4-RT) (T605) Specimen Volume: Entire specimen Collection Instructions: Place swab back into a multimicrobe media (M4-RT, M4, or M5). Specimen Type: Tissue Supplies: M4-RT (T605) Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4, or M5) Specimen Volume: Entire collection Collection Instructions: Collect fresh tissue specimen. Specimen Type: Urine Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** Body Fluid, Respiratory Specimen, Spinal Fluid, or Urine: 0.3 mL Stool: 0.5 g Swab or Tissue: NA

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Adenovirus, Molecular Detection, PCR, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: Spin down promptly.

**Specimen Minimum Volume:** 0.3 mL

**CPT Code Information:** 87798
Transport Temperature:
Plasma EDTA Refrigerated (preferred) 7 days
Frozen 7 days

CPT Code Information: 87798

FADIP 91378  Adiponectin
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial. Note: Overnight fasting is required.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 28 days

CPT Code Information: 83520

FADMK 91925  ADmark Phospho-Tau/Total-Tau/A Beta 42, Analysis & Interp, CSF (Symptomatic)
Specimen Requirements: Specimen Type: Spinal Fluid Sources: CSF Container/Tube: Polypropylene tube Specimen Volume: 2 mL Collection Instructions: Collect 2 mL of spinal fluid (CSF). Send 2 mL CSF in a polypropylene transfer tube, ship frozen. Note: CSF sample can be collected in the Standard Lumbar Puncture Kit, but must be transferred to a polypropylene tube within 4 hours.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
CSF Frozen (preferred) 120 days
Refrigerated 21 days

CPT Code Information: 83520 x 3

RACTH 82140  Adrenocorticotropic Hormone, ACTH, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For one allergen: 0.3 mL; For more than one allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003
ACTH 70351

Adrenocorticotropic Hormone (ACTH) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

ACTH 8411

Adrenocorticotropic Hormone (ACTH), Plasma

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Ice-cooled, lavender top (EDTA) Submission Container/Tube: Plastic, 5 mL, aliquot tube Specimen Volume: 1 mL Collection Instructions: 1. Morning (6 a.m.-10:30 a.m.) specimen is desirable. 2. Collect with a pre-chilled EDTA tube and transport to the laboratory on ice. 3. Spin down in a refrigerated centrifuge within 2 hours and immediately separate plasma from cells. 4. Immediately freeze plasma. Additional Information: Separate specimens should be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma EDTA Frozen (preferred) 28 days
Refrigerated 3 hours
Ambient 2 hours

**CPT Code Information:** 82024

ADLTX 62710

Adulterants Survey, Chain of Custody, Urine

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the provided container, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours
**ADULT 29345**

**Adulterants Survey, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 60-mL urine bottle
Specimen Volume: 20 mL
Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

Additional Information: 1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of custody information, see ADLTX / Adulterants Survey, Chain of Custody, Urine. 2. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 81005

**ISAE 45246**

**Aerobe Identification by Sequencing (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies

**CPT Code Information:** 87153

**AGXTZ 35348**

**AGXT Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood
Container/Tube: Lavender top (EDTA) or yellow top (ACD)
Specimen Volume: 3 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Additional Information: Specimen preferred to arrive within 96 hours of draw.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

**ALT 8362**

**Alanine Aminotransferase (ALT) (GPT), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL
Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.
Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 7 days

CPT Code Information: 84460

AGXTG 35349
Alanine:Glyoxylate Aminotransferase (AGXT) Mutation Analysis (G170R), Blood

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Specimen preferred to arrive within 96 hours of draw.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Varies Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 81479-Unlisted molecular pathology procedure

FZ004 33038
Albumin Ratio

Transport Temperature:
CSF Refrigerated (preferred) 14 days
Frozen 30 days
Ambient 7 days

CPT Code Information: See profile FBBAB

FALUF 57286
Albumin, Body Fluid

Specimen Requirements: Collect 1 mL body fluid, centrifuge and separate to remove cellular material. Send frozen in a plastic container.

Specimen Minimum Volume: 0.35 mL

Transport Temperature:
Body Fluid Frozen (preferred) 30 days
Refrigerated 8 days
Ambient 8 hours
**ALB**  
8436  
**Albumin, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL. Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred)  150 days
- Frozen  120 days

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**FALBU**  
90309  
**Albuterol, Serum/Plasma**

**Specimen Requirements:** Submit only one of the following specimens: Serum Draw blood in a plain, red-top tube(s). Serum gel tube is not acceptable. Spin down and send 3 mL serum refrigerated in plastic preservative free vial. Plasma Draw blood in a lavender-top or pink top (EDTA) tube(s). Plasma gel tube is not acceptable. Spin down and send 3 mL EDTA plasma refrigerated in plastic preservative free vial.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Varies Refrigerated (preferred)  30 days
- Frozen  365 days
- Ambient  30 days

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**FABI**  
57729  
**Alcohol Biomarkers, Urine**

**Specimen Requirements:** Collect 20 mL random urine without preservatives. Ship refrigerated in a plastic container.

**Specimen Minimum Volume:** 10 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen  180 days
- Ambient  72 hours

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**ALS**  
8363  
**Aldolase, Serum**

CPT Code Information: 82042

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CPT Code Information: 82040

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CPT Code Information: 80375

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CPT Code Information: 80307; 80321 (if appropriate);
**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 7 days
Frozen 14 days

**CPT Code Information:** 82085

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**ALDNA 15150**

**Aldosterone with Sodium, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: 2 Plastic, 5-mL tubes (T465) Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 25 mL of 50% acetic acid as preservative at start of collection. Use 15 mL of 50% acetic acid for children <5 years old. This preservative is intended to achieve a pH of between approximately 2 and 4. 3. Place 5 mL of well mixed, 24-hour urine in plastic, 5-mL tube (T465) and label as Aldosterone. 4. Place 5 mL of well mixed, 24-hour urine in plastic, 5-mL tube (T465) and label as Sodium. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives for multiple collections and Renin-Aldosterone Studies for more detailed instructions in Special Instructions.

**Specimen Minimum Volume:** Aldosterone: 1 mL/Sodium: 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 7 days

**CPT Code Information:** 82088-Aldosterone; 84300-Sodium;

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**ALDU 8556**

**Aldosterone, 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: Spironolactone (Aldactone) should be discontinued for 4 to 6 weeks before testing. Supplies: Urine tubes, 10-mL (T068) Submission Container/Tube: Plastic, urine tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 25 mL of 50% acetic acid as preservative at start of collection. Use 15 mL of 50% acetic acid for children <5 years old. This preservative is intended to achieve a pH of between approximately 2 and 4. Additional Information: See Urine Preservatives for multiple collections and Renin-Aldosterone Studies for more detailed instructions in Special Instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 14 days

**CPT Code Information:** 82088
AIVC
Aldosterone, Inferior Vena Cava, Serum

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1.8 mL
- Additional Information: See Renin-Aldosterone Studies in Special Instructions for more detailed instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 28 days
- Ambient 4 days

**CPT Code Information:** 82088

ALAV
Aldosterone, Left Adrenal Vein, Serum

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1.8 mL
- Additional Information: See Renin-Aldosterone Studies in Special Instructions for more details.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 28 days
- Ambient 4 days

**CPT Code Information:** 82088

ARAV
Aldosterone, Right Adrenal Vein, Serum

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1.8 mL
- Additional Information: See Renin-Aldosterone Studies in Special Instructions for more detailed instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 28 days
- Ambient 4 days

**CPT Code Information:** 82088

ALDS
Aldosterone, Serum

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1.2 mL
- Collection Instructions: 8 a.m. draw time (after the patient is active for 2 hours) is recommended; preferably no later than 10 a.m.
- Additional Information: See Renin-Aldosterone Studies in Special Instructions for more detailed instructions.
instructions.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 28 days
- Ambient 4 days

**CPT Code Information:** 82088

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**FALPE**

**Alfalfa (Medicago sativa) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 28 days

**CPT Code Information:** 86003

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**FALKC**

**ALK on Cytology Specimens, FISH**

**Specimen Requirements:** Submit a previously stained and cover slipped cytology slide from a cytology specimen that was fixed in ethanol- or methanol-based fixatives. Slides: 1 slide Additional Information: Processed slides will be retained by Mayo Medical Laboratories and will not be returned to the client.

**Specimen Minimum Volume:** 1 slide

**Transport Temperature:**
- Slide Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88377

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**ALP**

**Alkaline Phosphatase, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquotted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Frozen (preferred)  60 days
    Ambient     7 days
    Refrigerated 7 days

CPT Code Information: 84075

**ALKI**

89503

**Alkaline Phosphatase, Total and Isoenzymes, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL divided into 2 tubes each containing 0.5 mL

**Specimen Minimum Volume:** 0.5 mL divided into 2 tubes each containing 0.25 mL

**Transport Temperature:**
    Serum Frozen (preferred)  14 days
        Ambient     7 days
        Refrigerated 7 days

CPT Code Information: Alkaline Phosphatase, Serum; 84075; Alkaline Phosphatase Isoenzymes, Serum; 84080;

**FABP2**

57698

**Allergic Bronchopulmonary Aspergillosis Panel II**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
Spin down and send 1.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
    Serum Refrigerated (preferred)  28 days
        Frozen     365 days
        Ambient     7 days

CPT Code Information: 86331; 86001; 86003; 82785;

**ALLOI**

88888

**Allo-isoleucine, Blood Spot**

**Specimen Requirements:** Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Local newborn screening card Specimen Volume: 2 Blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. At least 1 spot should be complete and unpunched. 3. An alternative blood collection option for a patient >1 year of age is fingerstick. 4. Include type of feeding information on the collection card. 5. Do not expose specimen to heat or direct sunlight. 6. Do not stack wet specimens. 7. Keep specimen dry. 8. Let blood dry on the Blood Spot Collection Card (T493) at ambient temperature in a horizontal position for 3 hours before adding additional blood spots to the card. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.
Specimen Minimum Volume: Blood spot: 1

Transport Temperature:
Whole blood
Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 82136

FALFG 57519
Almond Food IgG
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

ALM 82882
Almond, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

ALPS 82449
Alpha Beta Double-Negative T Cells for Autoimmune Lymphoproliferative Syndrome
Specimen Requirements: For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Whole Blood EDTA Ambient 72 hours
**CPT Code Information:** 88184; 88185 x 4;

**AFSH 71768**

**Alpha FSH Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred) Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**WASQR 47958**

**Alpha Globin Gene Sequencing, Blood**

**Specimen Requirements:** Only orderable as a reflex. For more information see: -HAEVP / Hemolytic Anemia Evaluation -HBELC / Hemoglobin Electrophoresis Cascade, Blood -MEVP / Methemoglobinemia Evaluation -REVE / Erythrocytosis Evaluation THEVP / Thalassemia and Hemoglobinopathy Evaluation

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated 14 days

**CPT Code Information:** 81259-HBA1/HBA2; full sequence

**WASEQ 61362**

**Alpha Globin Gene Sequencing, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD, sodium heparin Specimen Volume: 4 mL Collection Instructions: Do not transfer blood to other containers

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated 14 days

**CPT Code Information:** 81259-HBA1/HBA2; full sequence

**FALG 57663**

**Alpha Lactalbumin IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum
Refrigerated (preferred)  28 days
Frozen                  365 days
Ambient                7 days

CPT Code Information: 86001

**ASYN 70635**

**Alpha Synuclein Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**FA1GP 57736**

**Alpha-1-Acid Glycoprotein**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial. Note: Overnight fasting is preferred.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  7 days
Frozen                  90 days
Ambient                6 hours

CPT Code Information: 82985

**AATRP 70350**

**Alpha-1-Antitrypsin (AAT) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
Alpha-1-Antitrypsin Clearance, Feces and Serum

Specimen Requirements: Both feces and serum are required. Blood must be drawn during the stool collection period. Specimen Type: Serum Collection Container/Tube: Red top or serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Specimen Type: Stool Supplies: Stool Containers - 24, 48, 72 Hours Kit (T291) Specimen Volume: Entire collection Collection Instructions: 1. Collect a 24-hour stool collection. 2. If no specimen is obtained in 24 hours, extend collection to 48 to 72 hours. Note time frame.

Specimen Minimum Volume: Homogenized Stool: 1 mL; Serum: 0.5 mL

Transport Temperature:
- Fecal Frozen (preferred) 14 days
  - Ambient 14 days
  - Refrigerated 14 days
- Serum Frozen (preferred) 28 days
  - Ambient 28 days
  - Refrigerated 28 days

CPT Code Information: 82103 x 2

Alpha-1-Antitrypsin Phenotype

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.25 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
- Serum Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

CPT Code Information: 82103-Alpha-1-antitrypsin; 82104-Alpha-1-antitrypsin phenotype;

Alpha-1-Antitrypsin Proteotype S/Z by LC-MS/MS, Serum

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.25 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
- Serum Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

CPT Code Information: 82103-Alpha-1-antitrypsin; 82542-A1AT proteotype S/Z, LC-MS/MS;
82104-Alpha-1-antitrypsin phenotype (if appropriate);

**A1AF 182**

**Alpha-1-Antitrypsin, Random, Feces**

**Specimen Requirements:** Supplies: Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635) Container/Tube: Stool container (T288) Specimen Volume: 5 g Collection Instructions: Collect a random stool specimen.

**Specimen Minimum Volume:** Homogenized Stool: 1 mL

**Transport Temperature:**
- Fecal Frozen (preferred) 14 days
- Ambient 14 days
- Refrigerated 14 days

**CPT Code Information:** 82103

**AAT 8161**

**Alpha-1-Antitrypsin, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82103

**A1M24 81036**

**Alpha-1-Microglobulin, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. No preservative. 3. Mix well before taking 4-mL aliquot. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

**CPT Code Information:** 83883

**RA1M 84448**

**Alpha-1-Microglobulin, Random, Urine**
**Specimen Requirements**: Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL
Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume**: 1 mL

**Transport Temperature**: 
- Urine Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

**CPT Code Information**: 83883

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**Alpha-2 Plasmin Inhibitor, Plasma**

**Specimen Requirements**: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume**: 0.5 mL

**Transport Temperature**: 
- Plasma Na Cit Frozen 14 days

**CPT Code Information**: 85410

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**Alpha-2-Macroglobulin, Serum**

**Specimen Requirements**: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume**: 0.5 mL

**Transport Temperature**: 
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information**: 83883

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**Alpha-Amylase, IgE**

**Specimen Requirements**: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume**: For one allergen: 0.3 mL; For more than one allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

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Transport Temperature:
Serum Refrigerated (preferred) 14 days
            Frozen            90 days

CPT Code Information: 86008

**ALFP**
**70353**

**Alpha-Fetoprotein (AFP) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
            Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**L3AFP**
**88878**

**Alpha-Fetoprotein (AFP) L3% and Total, Hepatocellular Carcinoma Tumor Marker, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

Transport Temperature:
Serum Frozen (preferred) 90 days
            Refrigerated            5 days

CPT Code Information: 82107

**AFP**
**8162**

**Alpha-Fetoprotein (AFP) Tumor Marker, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
            Frozen            90 days

CPT Code Information: 82105
Alpha-Fetoprotein (AFP), Peritoneal Fluid

Specimen Requirements: Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 2 mL

Specimen Minimum Volume: 0.5 mL (Samples <0.5 mL may be rejected)

Transport Temperature:
Peritoneal Frozen (preferred) 90 days
   Ambient 7 days
   Refrigerated 7 days

CPT Code Information: 86316

Alpha-Fetoprotein (AFP), Single Marker Screen, Maternal, Serum

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: 1. Do not draw specimen after amniocentesis, as this could affect results. 2. Immediately spin down. Additional Information: 1. Draw blood between 15 weeks, 0 days and 22 weeks, 6 days. 2. Initial or repeat testing is determined in the laboratory at the time of report and will be reported accordingly. To be considered a repeat test for the patient, the testing must be within the same pregnancy and trimester, with interpretable results for the same test, and both tests are performed at Mayo Clinic.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
   Frozen 90 days

CPT Code Information: 82105

Alpha-Fetoprotein (AFP), Spinal Fluid

Specimen Requirements: Container/Tube: Sterile vial Specimen Volume: 1 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
CSF Frozen (preferred) 7 days
   Refrigerated 7 days

CPT Code Information: 86316

Alpha-Fetoprotein, Amniotic Fluid

Specimen Requirements: Container/Tube: Amniotic fluid container Specimen Volume: 1 mL Collection Instructions: Do not centrifuge. Additional Information 1. The following information is required: a. Date ultrasound performed b. Estimated due date by ultrasound c. Collection date d. Gestational age must be between 13 and 24 weeks; 16 to 18 weeks preferred. 2. If chromosome studies
are also requested, see AF / Chromosome Analysis, Amniotic Fluid. The specimen for AFP-AF testing, when requested with chromosome analysis, cannot be frozen.

**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Amniotic Fld Refrigerated 7 days

**CPT Code Information:** 82106-AFP; 82013-Acetylcholinesterase (if appropriate);

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**FUCW 8814**  
**Alpha-Fucosidase, Leukocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL  
**Transport Temperature:**  
Whole Blood ACD Refrigerated (preferred) 6 days  
Ambient 4 days

**CPT Code Information:** 82657

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**FAGPL 57717**  
**Alpha-Gal Panel**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 28 days

**CPT Code Information:** 86003 x 4

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**AGABS 89407**  
**Alpha-Galactosidase, Blood Spot**

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood spot collection card (T493) Acceptable: Ahlstrom 226 filter paper and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. An alternative blood collection option for a patient >1 year of age is fingerstick. 3. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 4. Do not expose specimen to heat or direct sunlight. 5. Do not stack wet specimens. 6. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot
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<tr>
<td><strong>Alpha-Globin Gene Analysis</strong></td>
<td>Serum Frozen (preferred) 14 days</td>
<td>81269</td>
</tr>
<tr>
<td>58114</td>
<td>Refrigerated 24 hours</td>
<td></td>
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<tr>
<td><strong>Alpha-Globin Gene Analysis</strong></td>
<td>Varies Varies</td>
<td>81269</td>
</tr>
</tbody>
</table>

**Specimen Requirements:**
- **Alpha-Galactosidase, Leukocytes**
  - Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A)
  - Specimen Volume: 6 mL
  - Collection Instructions: Do not transfer blood to other containers.
  - Specimen Minimum Volume: 5 mL
  - Transport Temperature: Whole blood Ambient 72 hours

- **Alpha-Galactosidase, Serum**
  - Collection Container/Tube: Preferred: Red top Acceptable: Serum gel
  - Submission Container/Tube: Plastic vial
  - Specimen Volume: 2 mL
  - Specimen Minimum Volume: 0.2 mL
  - Transport Temperature: Serum Frozen (preferred) 14 days

- **Alpha-Globin Gene Analysis**
  - Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who...
have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 1 mL/Amniotic Fluid: 10 mL

**Transport Temperature:**

Varies

**CPT Code Information:** Alpha-Globin Gene Analysis; 81269-HBA1/HBA2 (alpha globin 1 and alpha globin 2) (eg, alpha thalassemia, Hb Bart hydrops fetalis syndrome, HbH disease), gene analysis, for common deletions or variant (eg, Southeast Asian, Thai, Filipino, Mediterranean, alpha3.7, alpha4.2, alpha20.5, and Constant Spring); ; Reflex Tests; CULAF / Amniotic Fluid Culture for Genetic Testing; Tissue culture for amniotic fluid (if appropriate); Cryopreservation (if appropriate); ; Maternal Cell Contamination, Molecular Analysis; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

**IDSWB**

Alpha-L-Iduronidase, Blood

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Whole blood Ambient (preferred) 7 days Refrigerated 7 days

**CPT Code Information:** 82657

**IDSBS**

Alpha-L-Iduronidase, Blood Spot

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood spot collection card (T493) Acceptable: Ahlstrom 226 Filter Paper and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is fingerstick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot
Transport Temperature:
Whole blood  Ambient (preferred)  90 days
  Frozen  90 days
  Refrigerated  90 days

CPT Code Information: 82657

**ALFA**  
82897  
**Alpha-Lactoalbumin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
  Frozen  90 days

CPT Code Information: 86008

**MANN**  
62511  
**Alpha-Mannosidase, Leukocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Whole Blood ACD Refrigerated (preferred) 6 days
  Ambient  4 days

CPT Code Information: 82657

**ANAS**  
8782  
**Alpha-N-Acetylglucosaminidase, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
Serum Frozen 365 days

CPT Code Information: 84311
**Alpha-Subunit Pituitary Tumor Marker, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Red: Frozen (preferred) 90 days
- Refrigerated: 7 days

**CPT Code Information:** 82397

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**Alpha/Beta Crystallin IHC, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY: Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Alport (Collagen IV Alpha 5 and Alpha 2) Immunofluorescent Stain, Renal**

**Specimen Requirements:** Supplies: Renal Biopsy Kit (T231) Source: Kidney or Skin Container/Tube: Transport medium (Michel's or Zeus media) (T231), Frozen tissue. Specimen Volume: Entire specimen Collection Instructions: 1. For kidney cases, collect specimens according to the instructions in Renal Biopsy-Procedures of Handling Tissue for Light Microscopy, Immunohistology, and Electron Microscopy in Special Instructions. 2. If standard immunoglobulin and complement immunofluorescence has already been performed, submit the residual frozen tissue (must contain glomeruli) on dry ice. 3. For skin cases, submit punch biopsy in Zeus/Michel's. Acceptable: 2 frozen tissue unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick.

**Transport Temperature:**
- Special Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 88346-primary IF;

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**Alprazolam (Xanax)**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a
plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial. Plasma Draw blood in a green-top sodium heparin tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL of plasma refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1.0 mL

**Transport Temperature:**
- Varies
- Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80346

**ALTN 82910**

**Alternaria tenuis, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**ALU 8828**

**Aluminum, 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 82108
Aluminum, Serum

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Greiner Z Trace Element no-additive (Aluminum Only), 6 mL (T713) Metal Free Specimen Vial (T173) Container/Tube: Greiner Z Trace Element (T713) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1.2 mL Collection Instructions: See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

**CPT Code Information:** 82108

Aluminum/Creatinine Ratio, Random, Urine

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82108-Aluminum/creatinine ratio

Alveolar Rhabdomyosarcoma (ARMS), 13q14 (FOXO1 or FKHR) Rearrangement, FISH, Tissue

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5-micron thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron thick sections placed on positively charged slides, and 1 hematoxylin and eosin (H and E)-stained slide

**Transport Temperature:**
- Tissue Ambient (preferred)
**ARMS 35329**

**Alveolar Rhabdomyosarcoma by Reverse Transcriptase PCR (RT-PCR)**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue Collection Instructions: Process all specimens into FFPE blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 5% tumor cell population Slides: A minimum of ten, 5-micron, unstained slides are required.

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81401-FOXO1/PAX3; 81401-FOXO1/PAX7; 88381-Microdissection, manual;

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**TFE3 35319**

**Alveolar Soft Part Sarcoma (ASPS)/Renal Cell Carcinoma (RCC), Xp11.23 (TFE3), FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);
cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**FAMAN 91132**

**Amantadine (Symmetrel)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL of sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**

- Varies Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80375

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**PAMIK 37032**

**Amikacin, Peak, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 80150

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**RAMIK 37033**

**Amikacin, Random, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Additional Information: Serum for a peak level should be drawn 30 to 60 minutes after last dose (order PAMIK / Amikacin, Peak, Serum). Serum for a trough level should be drawn immediately before next scheduled dose (order TAMIK / Amikacin, Trough, Serum).

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours
CPT Code Information: 80150

TAMIK
37031

Amikacin, Trough, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL. Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

CPT Code Information: 80150

AAMSD
60200

Amino Acids, Maple Syrup Urine Disease Panel, Plasma

Specimen Requirements: Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: EDTA, plasma gel, or lithium heparin Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL. Collection Instructions: 1. Fasting (overnight preferred, 4 hours minimum). Infants should be drawn just before next feeding (2-3 hours without TPN if possible). 2. Centrifuge within 4 hours if specimen is stored at refrigerated temperature and aliquot plasma. Send plasma frozen.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
- Plasma Frozen 14 days

CPT Code Information: 82136

AAQP
9265

Amino Acids, Quantitative, Plasma

Specimen Requirements: Patient Preparation: Fasting (overnight preferred, 4 hours minimum). Infants should be drawn just before next feeding (2-3 hours without total parenteral nutrition, if possible). Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: EDTA, PST, lithium heparin Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL. Collection Instructions: Centrifuge within 4 hours if specimen is stored at refrigerated temperature and aliquot plasma. Send plasma frozen.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
- Plasma Frozen 14 days

CPT Code Information: 82139

AAPD
60475

Amino Acids, Quantitative, Random, Urine
Specimen Requirements: Supplies: Aliquot tube, 5-mL (T465) Container/Tube: Aliquot tube, 5-mL (T465) Specimen Volume: 2 mL Collection Instructions: Collect a random urine specimen.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Frozen (preferred) 70 days
Refrigerated 14 days

CPT Code Information: 82139

AAMSF 81934

Amino Acids, Quantitative, Spinal Fluid

Specimen Requirements: Container/Tube: Sterile vial Specimen Volume: 0.2 mL Collection Instructions: Collect specimen from second collection vial.

Specimen Minimum Volume: 0.1 mL

Transport Temperature:
CSF Frozen 14 days

CPT Code Information: 82139

AUAUCD 60202

Amino Acids, Urea Cycle Disorders Panel, Plasma

Specimen Requirements: Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: EDTA or green top (lithium heparin) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Fasting (overnight preferred, 4 hours minimum). Infants should be drawn just before next feeding (2-3 hours without TPN if possible). 2. Centrifuge within 4 hours if specimen is stored at refrigerated temperature and aliquot plasma. Send plasma frozen.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Plasma Frozen 14 days

CPT Code Information: 82136

ALAUR 61547

Aminolevulinic Acid (ALA), Urine

Specimen Requirements: Patient Preparation: Patient should abstain from alcohol for 24 hours prior to and during testing. Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 2 mL Collection Instructions: Collect a random urine specimen.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
Frozen 45 days

CPT Code Information: 82135
Aminolevulinic Acid (ALA), Urine

**Specimen Requirements:** Specimen Type: Urine Submission Container/Tube: Plastic, 6-mL tube(s) (MML T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours (NO preservative). 2. Refrigerate specimen during the 24-hour collection. 3. Send specimen frozen in the plastic, 6-mL urine tube (T465) 4. Collection volume and duration are required

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Urine Frozen (preferred) 30 days
- Refrigerated 4 days

**CPT Code Information:** 82135

Aminolevulinic Acid Dehydratase (ALA-D), Washed Erythrocytes

**Specimen Requirements:** All porphyrin tests on erythrocytes can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Lavender top (EDTA) or green top (lithium heparin) Submission Container/Tube: Plastic vial Specimen Volume: Entire washed erythrocyte suspension Collection Instructions: Process entire specimen as follows: 1. Immediately place specimen on wet ice. 2. Transfer entire specimen to a 12-mL graduated centrifuge tube. 3. Centrifuge specimen for 10 minutes at 2,000 rpm. 4. Record volume of packed cells and the total volume of the specimen. 5. Discard supernatant plasma. 6. Wash packed erythrocytes 2 times by resuspension of at least an equal amount of cold 0.9% saline, mix, and centrifuge for 5 minutes at 2,000 rpm, discarding supernatant after each washing. 7. Resuspend packed cells to the original total volume with 0.9% saline. Invert specimen gently to mix.

**Specimen Minimum Volume:** 1 mL of washed and resuspended erythrocytes

**Transport Temperature:**
- Washed RBC Frozen 24 hours

**CPT Code Information:** 82657

Aminolevulinic Acid Dehydratase (ALAD), Whole Blood

**Specimen Requirements:** All porphyrin tests on whole blood can be performed on 1 draw tube. Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Lavender top (EDTA) or green top (lithium heparin) Specimen Volume: Full tube Collection Instructions: 1. Patient should abstain from alcohol for 24 hours. 2. Immediately place specimen on wet ice. Additional Information: Include a list of medications the patient is currently taking.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Whole blood Refrigerated 4 days

**CPT Code Information:** 82657
**Amiodarone, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 3 mL Collection Instructions: Draw blood no sooner than 12 hours (trough value) after last dose.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 28 days
  - Frozen: 28 days
  - Ambient: 24 hours

**CPT Code Information:** 80299

**Amitriptyline and Nortriptyline, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 28 days
  - Frozen: 28 days
  - Ambient: 7 days

**CPT Code Information:** 80335; G0480 (if appropriate);

**Ammonia, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plain, plastic screw-top tube Specimen Volume: > or =0.5 mL Collection Instructions: 1. Specimens should be put on ice immediately after collection. 2. Centrifuge at refrigerated temperature (4°C). 3. Aliquot plasma into plastic screw-top tube. Keep on ice. 4. Freeze plasma within 2 hours of draw.

**Specimen Minimum Volume:** 0.50 mL

**Transport Temperature:**
- Plasma EDTA: Frozen (preferred) 7 days
  - Refrigerated: 2 hours

**CPT Code Information:** 82140

**Ammonium, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: Collect urine for 24 hours. Additional
Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 82140

### RAMCN 36885

**Ammonium, Random, Urine**

**Specimen Requirements:** Only orderable as part of a profile. For more information see SSATR / Supersaturation Profile, Pediatric, Random, Urine.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 82140

### RAMBO 62657

**Ammonium, Random, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 82140

### CULAF 35244

**Amniotic Fluid Culture for Genetic Testing**

**Specimen Requirements:** Provide a reason for referral and gestational age with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. Container/Tube: Amniotic fluid container Specimen Volume: 5-10 mL Collection Instructions: 1. Discard the first 2 mL of amniotic fluid. If the culture will be performed in conjunction with chromosome analysis and alpha-fetoprotein, a total of approximately 25 mL to 30 mL will be needed.
for the combined studies. 2. Place the tubes in a Styrofoam container (T329). 3. Fill remaining space with packing material. 4. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 5. Bloody specimens are undesirable. 6. If the specimen does not grow in culture, you will be notified within 7 days of receipt. Additional Information: 1. Advise Express Mail or equivalent if not on courier service. 2. Results will be reported and also telephoned or faxed, if requested.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Amniotic Fld Refrigerated (preferred)
Ambient

**CPT Code Information:** 88235; 88240;

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**AMOBS 8325**

**Amobarbital, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.5 mL Collection Instructions: Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

**CPT Code Information:** 80345; G0480 (if appropriate);

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**FAMOX 80450**

**Amoxapine (Asendin) and 8-Hydroxyamoxapine**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

**CPT Code Information:** 80335

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**AMOXY 82663**

**Amoxicillin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

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**FAMP 91171**

**Amphetamine, Serum or Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Varies Refrigerated (preferred): 14 days
- Frozen: 180 days

**CPT Code Information:** 80324

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**AMPMX 62712**

**Amphetamine-Type Stimulants Confirmation, Chain of Custody, Meconium**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required. Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: 1. Specimen that arrives with a broken seal does not meet the chain of custody requirements. 2. The laboratory recommends sending chain-of-custody specimens by overnight shipment.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)

**Transport Temperature:**
- Meconium Frozen (preferred): 28 days
- Ambient: 28 days
- Refrigerated: 28 days

**CPT Code Information:** 80324; 80359; G0480 (if appropriate);
**FASCC 75109**

**Amphetamines Analysis, Serum**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 7 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**

- Serum Red Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80307; 80324, 80359 - if applicable;

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**AMPHX 62711**

**Amphetamines Confirmation, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL. Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**

- Urine Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 80324; 80359; G0480 (if appropriate);

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**AMPHU 8257**

**Amphetamines Confirmation, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 60-mL urine bottle. Specimen Volume: 20 mL. Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**

- Urine Refrigerated (preferred) 28 days
  - Ambient 28 days

**CPT Code Information:** 80324; 80359; G0480 (if appropriate);
CPT Code Information: 80324; 80359; G0480 (if appropriate);

FAMPB  
91994  
Amphotericin B  
Specimen Requirements: Container/Tube: Agar slant or other appropriate media Specimen Volume: Organism in pure culture Complete and submit with specimen: 1. Fungus Testing Lab request form Collection Instructions: Organism must be in pure culture, actively growing. Place specimen in a large infectious container (T146) and label as an etiologic agent/infectious substance.  
Transport Temperature:  
Varies Ambient

CPT Code Information: 87188 â€“ mould â€“ MIC microdilution or agar dilution (if appropriate); 87186 â€“ yeast â€“ MIC microdilution or agar dilution (if appropriate);

AMBF  
8371  
Amylase, Body Fluid  
Specimen Requirements: Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material.  
Specimen Minimum Volume: 0.5 mL  
Transport Temperature:  
Body Fluid Refrigerated (preferred) 7 days  
Frozen 30 days  
Ambient 24 hours

CPT Code Information: 82150

FAMYS  
57288  
Amylase, Isoenzymes  
Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). Serum gel tube is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial. Plasma Draw blood in a green-top (sodium or lithium heparin) tube(s). Spin down and send 1 mL plasma refrigerated in a plastic vial.  
Specimen Minimum Volume: 0.5 mL  
Transport Temperature:  
Varies Refrigerated (preferred) 30 days  
Frozen 30 days  
Ambient 7 days

CPT Code Information: 82150/x2

AMLPC  
60078  
Amylase, Pancreatic Cyst  
Specimen Requirements:  
Transport Temperature:  
Varies Refrigerated (preferred) 30 days  
Frozen 30 days  
Ambient 7 days

CPT Code Information: 82150/x2
**Specimen Requirements:** Container/Tube: Plain, plastic, screw top tube Specimen Volume: 1 mL Additional Information: A minimum of 0.5 mL is required for testing; specimens <0.5 mL may be rejected.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Pancreatic Cyst Fluid Frozen (preferred) 30 days Refrigerated 7 days

**CPT Code Information:** 82150

**Amylase, Pancreatic, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)

Ambient 7 days

Frozen

**CPT Code Information:** 82150

**Amylase, Random, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 7 days

Frozen 7 days

**CPT Code Information:** 82150

**Amylase, Timed Collection, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a 2-hour urine specimen. 2. The patient should have nothing by mouth except water between the hours of 6 p.m. and 10 a.m. 3. The bladder should be completely emptied at 8 a.m. This urine is discarded. 4. An adequate urine specimen (>100 mL) is ensured if the patient drinks 3 or more 8-ounce glasses of water. Half of this amount should be ingested between 7:30 a.m. and 8 a.m. The second half should be ingested at 8:30 a.m. 5. Collect all urine after 8 a.m. in container supplied. 6. The collection ends at 10 a.m. Include the 10 a.m. void in the collection container. 7. Measure and record the 2-hour volume. 8. Overlay urine with toluene (5 mL.), and send aliquot. If no toluene is available, refrigerate specimen during collection, and send the aliquot specimen frozen. 9. Record the date and time (the exact start and completion times of the 2-hour
collection) on the container label.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 82150

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**AMS 8352**

**Amylase, Total, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 30 days
- Ambient 7 days

**CPT Code Information:** 82150

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**AAH 70349**

**Amyloid A (Hepatic) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**AMYA 70548**

**Amyloid A (SAA) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 75
**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**FABP 91408**

**Amyloid Beta-Protein**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 3 mL of EDTA plasma frozen in plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Plasma EDTA  Frozen 30 days

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**AMYPI 70549**

**Amyloid P (SAP) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

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**APPi 70357**

**Amyloid Precursor Protein (APP) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

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**AMPiP 70356**

**Amyloid Protein Identification, Paraffin, LC-MS/MS**

**Specimen Requirements:** Supplies: Pathology Packaging Kit (T554) Specimen Type: Formalin-fixed or B5-fixed, paraffin-embedded tissue block Container/Tube: Pathology Packaging Kit (T554) Collection Instructions: Do not send fixed tissue slides. Testing can only be done on paraffin-embedded tissue blocks.
Transport Temperature:
AMYLOID Ambient
(preferred)
Refrigerated

CPT Code Information: 88313; 82542 (if appropriate); 88380 (if appropriate);

TTRX
83674
Amyloidosis, Transthyretin-Associated Familial, Reflex, Blood
Specimen Requirements: Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD
Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Whole blood Refrigerated (preferred) 4 days
Ambient 4 days

CPT Code Information: 82542 LC-MS; 81404 TTR gene (if appropriate);

ANAID
45010
Anaerobe Ident (Bill Only)
Specimen Requirements: This test is for Billing Purposes Only. This is not an orderable test.
Transport Temperature:
Varies

CPT Code Information: 87076

ISAN
45255
Anaerobe Identification by Sequencing (Bill Only)
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.
Transport Temperature:
Varies

CPT Code Information: 87153

BATTA
80931
Anaerobe Suscep Battery (Bill Only)
Specimen Requirements: This test is for Billing Purposes Only. This is not an orderable test.
Transport Temperature:
Varies

CPT Code Information: 87181 x 3-Susceptibility studies, antimicrobial agent; agar dilution method, per agent
**Anaerobe Susceptible Agent (Bill Only)**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
Varies

**CPT Code Information:** 87181

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**Anaplasma phagocytophilum (Human Granulocytic Ehrlichiosis) Antibody, Serum**

**Specimen Requirements:**
- **Container/Tube:** Preferred: Serum gel  Acceptable: Red top
- **Specimen Volume:** 0.5 mL
- **Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Refrigerated (preferred)  14 days
- Frozen  14 days

**CPT Code Information:** 86666

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**Anaplastic Lymphoma Kinase (ALK) Immunostain, Technical Component Only**

**Specimen Requirements:**
- **Supplies:** Immunostain Technical Only Envelope (T693)
- **Specimen Type:** Tissue
- **Container/Tube:** Immunostain Technical Only Envelope (T693)
- Pref. 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Anatomic Pathology Consultation, Wet Tissue**

**Specimen Requirements:**
- **Supplies:** Pathology Packaging Kit (T554)
- **Specimen Type:** Lung biopsy Collection Instructions: 1. Submit portion of lung tissue in formalin for light microscopy processing. 2. Place a portion of the lung tissue in Zeiss preservative for immunofluorescence. 3. A representative H and E slide from the light microscopy sample must be submitted along with the tissue in Zeiss preservative. Supplies: Pathology Packaging Kit (T554) Electron Microscopy Kit (T660) Conical Tube, 50 mL (T080)
- **Specimen Type:** Cardiac biopsy Collection Instructions: 1. For ideal analysis, collect 4 to 6 biopsy specimens and submit all in formalin unless electron microscopy (EM) is requested. 2. If EM is needed, submit at least 1 biopsy into 2.5% to 3% buffered glutaraldehyde preservative using the Electron Microscopy Kit (T660), or any leak-proof container such as a 50-mL conical tube (T080). See also Electron Microscopy Procedures for Handling Specimens for Electron Microscopy in Special Instructions.
Additional Information: If the question is drug toxicity, storage disease, or if the patient is younger than 25 years old, send at least 1 biopsy specimen in 2.5% to 3% buffered glutaraldehyde in case electron microscopy (EM) is needed for diagnosis. Supplies: Pathology Packaging Kit (T554) Specimen Type: Cardiac explant Collection Instructions: 1. Fix entire explant specimen in formalin for a minimum of 24 hours. 2. Following fixation, lightly wrap specimen in formalin-soaked paper towel, place in a sealable bag with a small amount of formalin, seal, and ship ambient. Additional Information: Include the last pretransplantation echocardiogram with report and images as well as all other relevant clinical documents. Supplies: Pathology Packaging Kit (T554) Conical Tube, 50 mL (T080) Specimen Type: Enucleated eye Specimen Volume: Entire specimen Collection Instructions: 1. Immediately after removal, place specimen in approximately 300 mL of 10% formalin. 2. Enucleated eye should not be opened or punctured. After 48 hours in the originating laboratory, the specimen should be transferred to a smaller container (eg, 50-mL conical tube: T080) with fixative (10% formalin) and sealed to be shipped without risk of leakage. Supplies: Pathology Packaging Kit (T554) Conical Tube, 50 mL (T080) Specimen Type: Iris, conjunctiva, cornea, and other small biopsies from eye Specimen Volume: Entire specimen Collection Instructions: 1. Obtain biopsy. 2. Place iris, conjunctiva, cornea, and other small biopsies on a paper mount (a piece of filter paper or other porous paper). This helps to keep the specimen from curling when it is fixed. 3. Immediately but gently place specimen (on the paper mount) into 10% formalin, approximately 20 times the volume of the biopsy. Place in suitable leak-proof container such as 50-mL conical tube (T080). 4. Placing sutures at the margins of resection with accompanying explanatory draft will help orientation of the specimen in the lab, in cases where margins are important. Supplies: Pathology Packaging Kit (T554) Aliquot Tube, 5 mL (T465) Specimen Type: Vitreous fluid/Aqueous humor Specimen Volume: Entire specimen Collection Instructions: 1. Obtain liquid specimen. 2. Place the liquid (vitreous or aqueous) concentrate into a small tube with a screw-top cap (T465) Seal the tube tightly. 3. Put the specimen immediately on a refrigerated cool pack (not dry ice or frozen cool pack). 4. If a washing (diluted) is available, it can also be sent in similar manner.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 88300- Level I-surgical pathology, gross examination only (if appropriate); 88302- Level II-surgical pathology, gross and microscopic examination (if appropriate); 88304- Level III-surgical pathology, gross and microscopic examination (if appropriate); 88305- Level IV-surgical pathology, gross and microscopic examination (if appropriate); 88307- Level V-surgical pathology, gross and microscopic examination (if appropriate); 88309- Level VI-surgical pathology, gross and microscopic examination (if appropriate); 88310- Level VII-surgical pathology, gross and microscopic examination (if appropriate); 88312- Level VIII-surgical pathology, gross and microscopic examination (if appropriate); 88314- Level IX-surgical pathology, gross and microscopic examination (if appropriate); 88316- Level X-surgical pathology, gross and microscopic examination (if appropriate);

**ANCH**

82345

**Anchovy, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
**CPT Code Information:** 86003

**AREC 70358**

**Androgen Receptor (AR) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient

(preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**FANGL 75001**

**Androstanediol Glucuronide**

**Specimen Requirements:** Submit only one of the following: Serum Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 1 mL serum refrigerate in plastic vial. Plasma Draw blood in a (lavender-top) EDTA tube(s). Spin down and send 1 mL plasma refrigerate in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL Note: Minimum volume does not allow for repeat analysis

**Transport Temperature:**

Varies Refrigerated (preferred) 6 days

Frozen 365 days

Ambient 6 days

**CPT Code Information:** 82154

**ANST 9709**

**Androstenedione, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

Serum Red Refrigerated (preferred) 28 days

Frozen 28 days

Ambient 7 days

**CPT Code Information:** 82157

**MASF 35859**

**Angiosarcoma, MYC (8q24) Amplification, FISH, Tissue**

**Specimen Requirements:** Provide a reason for referral and pathology report with each specimen.
The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

Tissue Ambient (preferred)
Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**FACEC**

**Angiotensin Converting Enzyme, CSF**

**Specimen Requirements:** Specimen Type: Spinal Fluid Sources: CSF Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Collect 1 mL of spinal fluid (CSF). Ship frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

CSF Frozen (preferred) 180 days
Refrigerated 7 days

**CPT Code Information:** 82164

**ACE**

**Angiotensin Converting Enzyme, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Additional Information: The use of angiotensin converting enzyme (ACE)-inhibiting antihypertensive drugs will cause decreased ACE values.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 7 days
Frozen 180 days

**CPT Code Information:** 82164
**Angiotensin I, Plasma**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s). Separate plasma from cells immediately after draw, and send 3 mL of EDTA plasma frozen in plastic vial. Note: 1. Patient should be on a normal sodium diet, 110 mEq of sodium. Patient should be in a recumbent posture for at least 30 minutes prior to drawing specimen. 2. Diuretics, mineralocorticoids, glucocorticoids, estrogens, oral contraceptives, adrenocorticotropic hormone medications, sodium, potassium, and posture all affect angiotensin levels.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Plasma EDTA  Frozen

**CPT Code Information:** 82164

**Angiotensin II, Plasma**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s). Separate plasma from cells immediately after draw, and send 3 mL of EDTA plasma frozen in plastic vial. Patient preparation: 1. Patient should be on a normal sodium diet, 110 mEq of sodium. Patient should be in a recumbent posture for at least 30 minutes prior to drawing specimen. 2. Diuretics, mineralocorticoids, glucocorticoids, estrogens, oral contraceptives, ACT medications and sodium, potassium, and posture all affect Angiotensin levels.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Plasma EDTA  Frozen 30 days

**CPT Code Information:** 82163

**Anisakis, Parasite, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred)  14 days
Frozen 90 days

**CPT Code Information:** 86003

**Anise, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from...
the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FANSE 57520**

**Anatto Seed (Bixa orellana) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**ANNEX 70355**

**Annexin-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**ADNAS 80204**

**Anti-DNase B Titer, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Additional Information: Fasting preferred but not required.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 7 days
**Anti-Enterocyte Antibodies**

*CPT Code Information:* 86215

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red Specimen volume: 1 mL
Collection Instructions: Collect blood in a red-top no additive tube and submit 1 mL of serum shipped frozen. REQUIRED to accompany all specimens (testing will not proceed until all requirements are met):
1. Completed clinical summary/medical history form
2. See Special Instructions for a copy of the form.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum Red Frozen

*CPT Code Information:* 88346; 88350 x 2; 

**Anti-HMGCR Autoantibodies**

*CPT Code Information:* 83520

**Specimen Requirements:** Submit only 1 of the following specimens:
- Serum Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerate in a plastic vial.
- Plasma Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 2 mL of EDTA plasma refrigerate in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days
- Frozen 60 days
- Ambient 7 days

*CPT Code Information:* 83520

**Anti-IgA**

*CPT Code Information:* 83520

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a plaine, red-top tube(s) or serum gel tube(s). Spin down and send 1 mL of serum refrigerate in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
- Frozen 365 days
- Ambient 7 days

*CPT Code Information:* 83520

**Anti-IgE**

*CPT Code Information:* 57892

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum ambient in a plastic vial.

**Transport Temperature:**
Serum Ambient (preferred) 14 days

- Frozen 365 days
- Refrigerated 14 days

**CPT Code Information:** 83516

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**FANBF 57173**

**Anti-Nuclear Ab (FANA), Body Fluid**

**Specimen Requirements:** 1 mL body fluid. Shipped refrigerate. Required: 1. Specimen source 2. CSF - Reference value is different, order ZW164 referral lab code 287.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days

- Frozen 180 days
- Ambient 48 hours

**CPT Code Information:** 86038; 86039;

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**FCLNE 91321**

**Anti-Phosphatidylcholine Ab**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 3 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Frozen (preferred) 30 days

- Refrigerated 14 days

**CPT Code Information:** 83520/x3

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**FPHET 91322**

**Anti-Phosphatidylethanolamine Panel**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 3 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Frozen (preferred) 30 days

- Refrigerated 14 days

**CPT Code Information:** 83520 x 3; ;
Anti-retinal autoantibodies follow up, WB

**Specimen Requirements:** Note: This test should only be ordered as follow up to previous Anti-retinal autoantibodies performed at Oregon Health Sciences University (OHSU) Ocular Immunology Laboratory. Submit only one of the following specimens: Serum: Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 5 mL serum refrigerated in a plastic vial. Plasma: Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 5 mL EDTA plasma refrigerated in a plastic vial. Complete and submit with specimen: Completed OHSU Ocular request form Clinical history Referring physician information (name & phone number) - NOTE: Without this information, testing cannot be completed.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Varies Refrigerated 7 days

**CPT Code Information:** 84182

Antibody Identification, RBC

**Specimen Requirements:** Both blood and serum are required. Specimen Type: Blood Collection Container/Tube: 6-mL PINK-top (EDTA) Submission Container/Tube: Aliquot tube Specimen Volume: 3 mL plasma 3 mL RBCs Collection Instructions: 1. Spin down and separate plasma from cells. Send both tubes. 2. Label specimen as EDTA plasma. Specimen Type: Serum Collection Container/Tube: 10-mL Red top Submission Container/Tube: Aliquot tube Specimen Volume: 5 mL serum 5 mL RBCs Collection Instructions: 1. Spin down and separate serum from clot. Send both tubes. 2. Label specimen as serum.

**Specimen Minimum Volume:** Blood: 6 mL EDTA Pediatric: 2 mL serum

**Transport Temperature:**
Varies Ambient (preferred) 4 days
Refrigerated 4 days

**CPT Code Information:** 86870-Antibody Identification (per panel tested); 86860-Antibody elution (if appropriate); 86880 x 3-Antigloblin, direct (if appropriate); 86905-Each red cell antigen typing (if appropriate); 86978-Adsorption, each (if appropriate); 81403-Human Erythrocyte Antigen (if appropriate) - Internal only ;

Antibody Screen with Reflexed Antibody Identification, RBC

**Specimen Requirements:** Container/Tube: Pink (EDTA) Specimen Volume: 6 mL Collection Instructions: Send specimen in original tube.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 4 days
Ambient 4 days

**CPT Code Information:** 86850
**ABTIR 113390**

**Antibody Titer, RBC**

**Specimen Requirements:** Both blood and serum are required. Specimen Type: Blood Collection Container/Tube: 6-mL PINK-top (EDTA) Submission Container/Tube: Aliquot tube Specimen Volume: 3 mL plasma 3 mL RBCs Collection Instructions: Spin down and separate plasma from cells. Send both tubes. Specimen Type: Serum Collection Container/Tube: 10-mL Red top Submission Container/Tube: Aliquot tube Specimen Volume: 5 mL serum 5 mL RBCs Collection Instructions: Spin down and separate serum from clot. Send both tubes.

**Specimen Minimum Volume:** Blood: 6 mL EDTA Pediatric: 2 mL serum

**Transport Temperature:**
- Varies Ambient (preferred) 
- Refrigerated 4 days

**CPT Code Information:** 86886-Antibody titer; 86870-Antibody Identification (if appropriate-per panel tested); 86860-Antibody elution (if appropriate); 86880 x 3-Antiglobin, direct (if appropriate); 86905-Each red cell antigen typing (if appropriate); 86978-Adsorption, each (if appropriate); 81403-Human Erythrocyte Antigen (if appropriate)-Internal only ;

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**ENAE 89035**

**Antibody to Extractable Nuclear Antigen Evaluation, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86235 x 6

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**FADDS 57772**

**Antidepressant Drug Screen, Qualitative**

**Specimen Requirements:** Submit only 1 of the following: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL of plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial, Urine Collect 3 mL random urine and send refrigerated in a preservative free plastic urine container.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80333; 80337; 80369;
Antidepressant Drug Screen, Ur, Quantitative

Specimen Requirements: Collect 3 mL random urine without preservatives. Ship refrigerated in a plastic container.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Frozen 30 days
Ambient 72 hours

CPT Code Information: 80333; 80337; 80369;

Antimicrobial Susceptibility Panel, Yeast

Specimen Requirements: Specimen Type: Organism in pure culture Supplies: Infectious Container, Large (T146) Container/Tube: Sabouraud's dextrose agar slant Specimen Volume: Infecting yeast isolate Collection Instructions: Organism must be in pure culture, actively growing. Do not submit mixed cultures.

Specimen Minimum Volume: NA

Transport Temperature:
Varies Ambient (preferred)
Refrigerated

CPT Code Information: 87186

Antimicrobial Susceptibility, Acid-Fast Bacilli, Rapidly Growing

Specimen Requirements: Specimen Type: Organism Supplies: Infectious Container, Large (T146) Container/Tube: Middlebrook 7H10 agar slant or other appropriate media Specimen Volume: Pure isolate Collection Instructions: Organism must be in pure culture, actively growing.

Specimen Minimum Volume: NA

Transport Temperature:
Varies Ambient (preferred)
Refrigerated

CPT Code Information: 87186

Antimicrobial Susceptibility, Acid-Fast Bacilli, Slowly Growing

Specimen Requirements: Specimen Type: Organism Supplies: Infectious Container, Large (T146) Container/Tube: Middlebrook 7H10 agar slant or other appropriate media Specimen Volume: Isolate Collection Instructions: Organism must be in pure culture, actively growing.

Transport Temperature:
**Antimicrobial Susceptibility, Aerobic Bacteria, MIC**

**Specimen Requirements:** Supplies: Infectious Container, Large (T146) Container/Tube: Agar slant or other appropriate media Specimen Volume: Organism in pure culture Collection Instructions: 1. Perform isolation of infecting bacteria. 2. Organism must be in pure culture, actively growing. Do not submit mixed cultures.

**CPT Code Information:** 87186-Sensitivity, MIC-per organism for routine battery; 87181-Susceptibility per drug and per organism for drugs not in routine battery (if appropriate); 87185-Beta lactamase (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate);

**Antimicrobial Susceptibility, Anaerobic Bacteria, MIC**

**Specimen Requirements:** Supplies: Anaerobic Transport Tube (T588) Thioglycollate broth or any other suitable anaerobic transport system Infectious Container, Large (T146) Specimen Type: Organism in pure culture Acceptable Sources: Available on isolates from blood cultures, bone and joint infections, or brain abscesses and organisms isolated in pure culture from other sources Container/Tube: Preferred: Anaerobic Transport Tube (T588) Acceptable: Thioglycollate broth or any other suitable anaerobic transport system Collection Instructions: Organism must be in pure culture, actively growing. Do not submit mixed cultures.

**CPT Code Information:** 87181 x 3-Antimicrobial Susceptibility, Anaerobic Bacteria, MIC; 87076-Id MALDI-TOF mass spec anaerobe (if appropriate); 87181-Anaerobe Susceptibility per Agent (if appropriate); 87185-Beta Lactamase (if appropriate); 87186-Sensitivity, MIC-per organism for routine battery (if appropriate); 87181-Susceptibility per drug and per organism for drugs not in routine battery (if appropriate);

**Antimicrobial Susceptibility, Mycobacterium tuberculosis Complex, First Line**

**Specimen Requirements:** Specimen Type: Organism Supplies: Infectious Container, Large (T146) Container/Tube: Middlebrook 7H10 agar slant Specimen Volume: Isolate Collection Instructions: Organism must be in pure culture, actively growing.

**Transport Temperature:**

Varies Ambient

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 87188 x 3-Antimicrobial Susceptibility, Mycobacterium tuberculosis Complex, Broth Method; 87186-Susceptibility, Mtb Cx, 2nd Line (if appropriate);

### MMLNS 82019

**Antimicrobial Susceptibility, Nocardia species**

**Specimen Requirements:** Specimen Type: Organism in pure culture Supplies: Infectious Container, Large (T146) Container/Tube: Preferred: Middlebrook 7H10 agar slant without antimicrobials Acceptable: Sabouraud's dextrose agar slant or similar media without antimicrobials (eg, 7H11 agar slant, LJ, MGIT [7H9] broth media) Specimen Volume: Isolate Collection Instructions: Organism must be in pure culture, actively growing.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 87186

### SBWB 64273

**Antimony, Blood**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: EDTA Royal-Blue Top Monoject Blood Tube 7mL (T767) Container/Tube: Covidien-Monoject royal blue-top (EDTA) Vacutainer glass trace element blood collection tube (T767). Other royal blue-top tubes are not acceptable for this testing. Specimen Volume: 0.8 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Whole blood Refrigerated (preferred) 28 days

- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 83018

### FANTU 91146

**Antimony, Urine**

**Specimen Requirements:** 10 mL aliquot of random or spot urine collected in metal free or acid washed container. Send specimen refrigerated.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days

**CPT Code Information:**
Frozen 180 days
Ambient 72 hours

CPT Code Information: 83018

AMH
Antimullerian Hormone (AMH), Serum
Specimen Requirements: Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic screw-top aliquot tube Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.1 mL
Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 90 days

CPT Code Information: 83520

VASC
Antineutrophil Cytoplasmic Antibodies Vasculitis Panel, Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 21 days
Frozen 21 days

CPT Code Information: 83516-PR3; 83516-MPO; 86255-Cytoplasmic neutrophil antibodies screen (if appropriate); 86256-Cytoplasmic neutrophil antibodies titer (if appropriate);

ANA2
Antinuclear Antibodies (ANA), Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.4 mL
Transport Temperature:
Serum Refrigerated (preferred) 21 days
Frozen 21 days

CPT Code Information: 86038

NAIFA
Antinuclear Antibodies, HEP-2 Substrate, IgG, Serum
Specimen Requirements: Container/Tube: Serum gel or red top Specimen Volume: 0.5 mL

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**ASO 80205**

**Antistrep-O Titer, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Additional Information: Fasting preferred but not required.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 7 days

**CPT Code Information:** 86039

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**ATTF 9030**

**Antithrombin Activity, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at -40°C or colder, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial. 3. Heparin treatment may lower plasma antithrombin.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85300

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**ATTI 9031**

**Antithrombin Antigen, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Heparin treatment may lower plasma antithrombin. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or = -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL
Transport Temperature:
Plasma Na Cit Frozen 14 days

CPT Code Information: 85301

**APCZ**

**APC Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen
Refrigerated

**CPT Code Information:** 81201-APC (adenomatous polyposis coli) (eg, familial adenomatosis polyposis [FAP], attenuated FAP) gene analysis; full gene sequence; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, bacterial artificial chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

**APO1Z**

**Apolipoprotein A-I (APOA1) Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen
Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

**APO2Z**

**Apolipoprotein A-II (APOA2) Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Ambient  
(preferred)  
Frozen  
Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

### APABR 37920

**Apolipoprotein A1 and B, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Centrifuge and aliquot 1 mL of plasma. Send refrigerated.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma EDTA Refrigerated (preferred) 8 days  
Frozen  60 days

**CPT Code Information:** 82172 x 2

### APLA1 80309

**Apolipoprotein A1, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Centrifuge and aliquot 1 mL of plasma. Send refrigerated.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma EDTA Refrigerated (preferred) 8 days  
Frozen  60 days

**CPT Code Information:** 82172

### APLB 80308

**Apolipoprotein B, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Centrifuge and aliquot 1 mL of plasma. Send refrigerated.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma EDTA Refrigerated (preferred) 8 days  
Frozen  60 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Apipoprotein E Genotyping, Blood

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Transport Temperature:
Varies Ambient
(preferred)
Frozen
Refrigerated


Apple IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

Apple, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003
**APR**

**82835**

**Apricot, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**APTTM**

**9118**

**APTT Mix 1:1**

**Specimen Requirements:** Only orderable as part of a coagulation consultation. For more information see 1 of the following: LUPPR / Lupus Anticoagulant Profile BDIAL / Bleeding Diathesis Profile THRMP / Thrombophilia Profile PROCT / Prolonged Clot Time Profile

**Transport Temperature:**
- Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85732

**ARBOP**

**83267**

**Arbovirus Antibody Panel, IgG and IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86651 x 2-California virus (La Crosse) encephalitis antibody, IgG and IgM; 86652 x 2-Eastern equine encephalitis antibody, IgG and IgM; 86653 x 2-St. Louis encephalitis antibody, IgG and IgM; 86654 x 2-Western equine encephalitis antibody, IgG and IgM;

**ABOPC**

**83897**

**Arbovirus Antibody Panel, IgG and IgM, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
- Frozen 14 days
ARGIN

**Arginase-1 Immunostain, Technical Component Only**

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693)
- Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:**
- 88342-TC, primary; 88341-TC, if additional IHC;

AVP

**Arginine Vasopressin, Plasma**

**Specimen Requirements:**
- Patient Preparation: 1. This test should not be requested on patients who have recently received radioactive material. 2. Have patient fast and thirst for 6 hours (no liquids, including water, are allowed).
- Specimen Type: Platelet-poor plasma
- Collection Container/Tube: Lavender top (EDTA) iced tube
- Submission Container/Tube: Plastic vial
- Specimen Volume: 2 mL
- Collection Instructions: Process 5 mL of EDTA whole blood as follows: 1. Spin down in a refrigerated centrifuge at approximately 1,000 x G (2,000 rpm for a 20-cm radius centrifuge) for 10 minutes. 2. Remove plasma, carefully avoiding the platelet/buffy coat.

**Specimen Minimum Volume:**
- 1.15 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 14 days
- Refrigerated 24 hours

**CPT Code Information:**
- 84588

FARI

**Aripiprazole (Abilify)**

**Specimen Requirements:**
- Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:**
- 0.25 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
  - Frozen 180 days
  - Ambient 72 hours
ARVGP
63160

**Arrhythmogenic Cardiomyopathy Multi-Gene Panel, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL
Collection Instructions: Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Whole Blood EDTA Ambient (preferred)
Refrigerated

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CPT Code Information: 80342

ARSAZ
35362

**ARSA Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Collection Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches-3 mm diameter

**Transport Temperature:**
Varies Varies

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CPT Code Information: 81439

ASFR
80375

**Arsenic Fractionation, 24 Hour, Urine**

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CPT Code Information: 81405 ARSA (arylsulfatase A) (eg, arylsulfatase A deficiency), full gene sequence; ; Fibroblast Culture for Genetic Test; ; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); ; 88240-Cryopreservation (if appropriate); ;
Specimen Requirements: Patient Preparation: 1. Patient should not eat seafood for a 48-hour period prior to start of collection. 2. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert. Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
   Frozen 28 days
   Ambient 72 hours

CPT Code Information: 82175

Arсенная дробление, случайное, моча

Arsenic Fractionation, Random, Urine

Specimen Requirements: Patient Preparation: 1. Patient should not eat seafood for a 48-hour period prior to start of collection. 2. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Aliquot Tube, 5 mL (T465) Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
   Frozen 28 days
   Ambient 72 hours

CPT Code Information: 82175

Arsenic робочая выработка, случайное, моча

Arsenic Occupational Exposure, Random, Urine

Specimen Requirements: Only orderable as part of profile. See ARSOR / Arsenic Occupational Exposure with Reflex, Random, Urine or HMSOR / Heavy Metal Occupational Exposure with Reflex, Urine.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
ARSOR
48550

Arsenic Occupational Exposure, with Reflex, Random, Urine

Specimen Requirements: Patient Preparation: - Patient should not eat seafood for a 48-hour period prior to start of collection. - High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 6 mL Collection Instructions: 1. Collect urine a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
    Frozen 28 days
    Ambient 72 hours

CPT Code Information: 82175 ; 82570 ;

ASU24
48537

Arsenic with Reflex, 24 Hour, Urine

Specimen Requirements: Patient Preparation: - Patient should not eat seafood for a 48-hour period prior to start of collection. - High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Plastic, 10-mL urine tube (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives in Special Instructions for multiple collections.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
    Frozen 28 days
    Ambient 72 hours

CPT Code Information: 82175

ASB
8645

Arsenic, Blood

Specimen Requirements: Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: Full tube Collection Instructions: 1. See Trace
Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original collection tube. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368381.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole blood  Refrigerated (preferred)  28 days
  - Ambient  28 days
  - Frozen  28 days

**CPT Code Information:** 82175

### Arsenic, Hair

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g Collection Instructions: Prepare and transport specimen per the instructions in the kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. Additional Information: If known, indicate source of hair (axillary, head, or pubic).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**
- Hair  Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 82175

### Arsenic, Nails

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g Collection Instructions: 1. Prepare and transport specimen per the instructions in the kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. 2. Clippings should be taken from all 10 fingernails or toenails. Additional Information: If known, indicate source of nails (fingernails or toenails).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**
- Nail  Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 82175
**ARSC 48541**

**Arsenic/Creatinine Ratio, Urine**

**Specimen Requirements:** Only orderable as part of profile. See ARSCR / Arsenic/Creatinine Ratio, with Reflex, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with Reflex, Urine.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**ARSCR 48540**

**Arsenic/Creatinine, with Reflex, Random, Urine**

**Specimen Requirements:** Patient Preparation: - Patient should not eat seafood for a 48-hour period prior to start of collection. - High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 6 mL Collection Instructions: 1. Collect urine a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 82175 ; 82570 ;

**FART 57913**

**Artichoke (Cynara scolymus) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

**ARSU 8777**

**Arylsulfatase A, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
Urine Refrigerated 14 days

**CPT Code Information:** 84311

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**ARSAW**

**Arylsulfatase A, Leukocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Whole Blood ACD Refrigerated (preferred) 4 days
Ambient 4 days

**CPT Code Information:** 82657

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**ARSB**

**Arylsulfatase B, Fibroblasts**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

**Transport Temperature:**
Tissue Varies

**CPT Code Information:** 82657-Arylsulfatase B; 88233-Fibroblast culture ; 88240-Cryopreservation for biochemical studies ;

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**ASCRI**

**Ascaris, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**VITC 42362**

**Ascorbic Acid (Vitamin C), Plasma**

**Specimen Requirements:** Patient Preparation: Fasting overnight (12-14 hours) (infants-draw prior to next feeding). Water can be taken as needed. Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Green top (heparin) Submission Container/Tube: Amber vial (T192) Specimen Volume: 1 mL Collection Instructions 1. Immediately place specimen on wet ice. Maintain specimen on wet ice and process within 4 hours of draw. 2. Centrifuge at 4°C, aliquot plasma into amber vial to protect from light and freeze immediately on dry ice.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Heparin Frozen 14 days

CPT Code Information: 82180

**AJPO 35350**

**Ashkenazi Jewish Mutation Analysis Panel Without Cystic Fibrosis (CF)**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2 full tubes Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tubes. Additional Information: A patient education brochure (T561) is available upon request.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**
Varies Ambient (preferred)
Frozen Refrigerated

CPT Code Information: 81200-ASPA aspartoacylase (eg, Canavan disease) gene analysis, common variants (eg, E285A, Y231X); 81209-BLM (Bloom syndrome, Rec! helicase-like) (eg, Bloom syndrome) gene analysis, 2281 del6ins7 variant; 81242-FANCC (Fanconi anemia, complementation group C) (eg, Fanconi anemia, type C) gene analysis, common variant (eg IVS4+4A->T); 81251-GBA (glucosidase, beta acid) (eg. Gaucher disease) gene analysis, common variants (eg, N370S, 84GG, L444P, IVS2+1G>A); 81255-HEXA (hexosaminidase A (alpha polypeptide) (eg. Tay-Sachs disease) gene analysis, common variants (eg, 1278insTATC, 1421+1G->C, G269S); 81260-IKBKAP (inhibitor of kappa light polypeptide gene enhance in B-cells, kinase complex-associated protein) (eg. Familial dysautonomia) gene analysis common variants (eg, 2507_6T->C, R696P; 81290-MCOLN1 (mucolipin 1) (eg. Mucolipidosis, type IV) gene analysis, common variants (eg, IVS3-2A->G, del6.4kb); 81330-SMPD1 (sphingomyelin phosphodiesterase 1, acid sysosomal) (eg, Niemann-Pick disease, Type A) gene analysis, common variants (eg, R496L, L302P, fsP330); 83080 Hexosaminidase A and Tot (additional test);
**Asparagus, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

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**Aspartate Aminotransferase (AST) (GOT), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 7 days
- Frozen: 30 days
- Ambient: 7 days

**CPT Code Information:** 84450

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**Aspen (Populus tremuloides) IgE**

**Specimen Requirements:** Draw blood in plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
- Frozen: 365 days
- Ambient: 28 days

**CPT Code Information:** 86003

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**Aspergillus (Galactomannan) Antigen, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1.5 mL Collection Instructions: 1. Avoid exposure of specimen to atmosphere. 2. Send specimen in original tube. Do not aliquot.
Specimen Minimum Volume: 1 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 87305

Aspergillus Antibodies, Immunodiffusion, Serum

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.1 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 30 days
Ambient 7 days

CPT Code Information: 86606 x 3

Aspergillus Antigen, Bronchoalveolar Lavage

Specimen Requirements: Container/Tube: Sterile, leak-proof container Specimen Volume: 2 mL Additional Information: To prevent specimen contamination, avoid opening/transferring specimen.

Specimen Minimum Volume: 1.5 mL
Transport Temperature:
Lavage Frozen (preferred) 14 days
Refrigerated 5 days

CPT Code Information: 87305

Aspergillus flavus IgE

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003
Aspergillus fumigatus, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Aspergillus fumigatus, IgG Antibodies, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86606

Aspergillus IgG Precipitins Panel

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerate in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86331 x 7

Aspergillus niger, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**ADMA**

Asymmetric Dimethylarginine, Plasma

**Specimen Requirements:** Patient Preparation: Fasting-overnight (12 hours) Collection
Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma EDTA Frozen (preferred)
Ambient 7 days

CPT Code Information: 82542

**ATRX**

ATRX Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**AHUSD**

Atypical Hemolytic Uremic Syndrome (aHUS) Complement Panel, Serum and Plasma

**Specimen Requirements:** Both plasma and serum are required for this test. Patient Preparation: 1. Fasting preferred. 2. Samples should not be drawn earlier than 48 hours following plasma exchange. Specimen Type: Plasma Collection Container/Tube: Light-blue top (3.2% sodium citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate plasma from cells; 1,500 x g for 10 minutes at 4°C. 3. Freeze specimen within 30 minutes. Specimen Type: Serum Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Freeze specimen within 30 minutes.

**Specimen Minimum Volume:** Serum, Plasma: 1 mL each

**Transport Temperature:**
Plasma Na Cit Frozen 14 days
FAPPN
57142

**Atypical Pneumonia DNA Panel Qual**

**Specimen Requirements:**
Note: Source is required. Submit only 1 of the following:
- Bronchial Lavage/Bronchial Wash: Collect 1 mL in a sterile container with a leak-proof cap. Ship refrigerate.
- Sputum: Collect 1 mL in a sputum collection kit or a sterile, plastic container with a leak-proof cap. Ship refrigerate.
- Throat or Nasopharyngeal Swab: Collect in 3 mL M4 media or V-C-M medium (green-cap) tube or equivalent (UTM). Ship refrigerate.

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 48 hours

**CPT Code Information:**
- 87486/Chlamydia pneumoniae, amplified probe technique;
- 87541/Legionella pneumophila, amplified probe technique;
- 87581/Mycoplasma pneumoniae, amplified probe technique;
- 87798/Amplified probe technique, each organism;

AUPU
82855

**Aureobasidium pullulans, IgE**

**Specimen Requirements:**
- Container/Tube: Preferred: Red top Acceptable: Serum gel
- Specimen Volume: 0.5 mL for each 5 allergens requested
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:**
- For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

APIN
82803

**Australian Pine, IgE**

**Specimen Requirements:**
- Container/Tube: Preferred: Red top Acceptable: Serum gel
- Specimen Volume: 0.5 mL for each 5 allergens requested
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:**
- For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
Autoimmune Dysautonomia Evaluation, Serum

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL

Specimen Minimum Volume: 2 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 72 hours

CPT Code Information: 83519-ACh receptor (muscle) binding antibody; 83519-AChR ganglionic neuronal antibody; 83519-Neuronal VGKC autoantibody; 83519-N-type calcium channel antibody; 83519-P/Q-Type Calcium Channel Ab; 83520-Striational (striated muscle) antibodies; 86255-AGNA-1 (if appropriate); 86255-Amphiphysin (if appropriate); 86255-ANNA-1; 86255-ANNA-2 (if appropriate); 86255-ANNA-3 (if appropriate); 86255-PCA-1 (if appropriate); 86255-PCA-2 (if appropriate); 86255-PCA-Tr (if appropriate); 86341-GAD65 antibody assay; 83519-ACh receptor (muscle) modulating antibodies (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 84182-CRMP-5-IgG Western blot (if appropriate); 84182-Amphiphysin Western Blot (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86255-AMPIS (if appropriate); 86255-GABCS (if appropriate); 86255-NMDCS (if appropriate); 86256-AMPIS (if appropriate); 86256-GABIS (if appropriate); 86256-NMDIS (if appropriate); 86255-ANNA-2 (if appropriate); 86255 ANNA-3 (if appropriate); 86255 PCA-1 (if appropriate); 86255 PCA-2 (if appropriate); 86255 PCA-Tr (if appropriate); 86256 CRMP-5-IgG (if appropriate); 86255 Amphiphysin (if appropriate); 86255 AGNA-1 (if appropriate);
86256-NMO/AQP4-IgG FACS titer (if appropriate); 86255-LG1CS (if appropriate); 86255-CS2CS (if appropriate);

**Autoimmune Liver Disease Panel, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86255-Smooth muscle antibodies screen; 83516-Mitochondrial antibodies (M2); 86256-Smooth muscle antibodies titer (if appropriate); 86038-Antinuclear Antibodies (ANA), Serum;

**Autoinflammatory Primary Immunodeficiency (PID) Gene Panel**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions:

1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card-Blood Spot Collection Filter Paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Whatman FTA Classic paper, Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient <1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Whole blood: 1 mL

**Transport Temperature:**

- Varies
- Varies
Autosomal Recessive Polycystic Kidney Disease (ARPKD), Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Transport Minimum Volume:** Blood: 1 mL/Amniotic Fluid: 10 mL/Chorionic Villi: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81404; 81479;

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Avocado IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

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Avocado, IgE

**CPT Code Information:** 81408-PKHD1; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ; Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); ; Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**AXIN2 Gene, Full Gene Analysis**

**AXINZ 35364**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
  - Frozen
  - Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology code; ; Hereditary Colon Cancer CGH Array; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

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**Azathioprine (Imuran) as 6-Mercaptopurine**

**FAZAT 91934**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL of sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80375
B-Cell CD40 Expression by Flow Cytometry, Blood

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL

**Collection Instructions:** Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Ambient 72 hours

**CPT Code Information:** 88184

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B-Cell Deficiency Primary Immunodeficiency (PID) Gene Panel

**Specimen Requirements:** Due to lower concentration of DNA yielded from alternate specimen sources, PMS2 cannot be performed on any sample type other than whole blood or DNA extracted from whole blood. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card-Blood Spot Collection Filter Paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Whatman FTA Classic paper, Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient <1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube.

**Specimen Stability Information:**

**Specimen Minimum Volume:** Whole blood: 1 mL

**Transport Temperature:**
Varies Varies

**CPT Code Information:** 81406; 81404 x 2; 81479; 81317-PMS2 (if appropriate); 81319-PMS2 (if appropriate);

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B-Cell Lymphoblastic Leukemia (B-ALL) Monitoring, Minimal

**CPT Code Information:**
Residual Disease (MRD) Detection, Bone Marrow

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: EDTA, Sodium heparin Specimen Volume: 3 mL Slides: Include 5- to 10-unstained bone marrow aspirate smears, if possible. Collection Instructions: 1. Submission of bilateral specimens is not required. 2. Label specimen appropriately (bone marrow).

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** Bone Marrow Ambient

**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker 88185 x 7-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each) 88187-Flow cytometry interpretation, 2 to 8 markers

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**B-Cell Lymphoma, FISH, Blood or Bone Marrow**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Acceptable: Specimen Type: Touch prep or fresh tissue

**Specimen Minimum Volume:** Blood: 2 mL Bone Marrow: 1 mL

**Transport Temperature:**

- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**B-Cell Lymphoma, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Lymph node Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide. Specimen Type: Solid tumor Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.
Specimen Minimum Volume: See Specimen Required.

Transport Temperature:
Tissue Ambient (preferred)
Refrigerated

CPT Code Information: 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€” DNA probe, each; each additional probe set (if appropriate); 88271x1 â€” DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€” DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€” DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€” Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€” Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

IABCS 88800

B-Cell Phenotyping Profile for Immunodeficiency and Immune Competence Assessment, Blood

Specimen Requirements: Two separate EDTA specimens are required: 1 refrigerated and 1 at ambient transport temperature. For serial monitoring, we recommend that specimen draws be performed at the same time of day. Specimen Type: Whole blood for TBBS / Quantitative Lymphocyte Subsets: T, B, and NK Container/Tube: 4 mL Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Send specimen in original tube. Do not aliquot. 2. Label specimen as blood for TBBS / Quantitative Lymphocyte Subsets: T, B, and NK. Specimen Stability Information: Ambient <52 hours Specimen Type: Whole blood for IABC / B-Cell Phenotyping Screen for Immunodeficiency and Immune Competence Assessment, Blood Container/Tube: Lavender top (EDTA) Specimen Volume: < or =14 years: 4 mL >14 years: 10 mL Collection Instructions: 1. Send specimen in original tube. Do not aliquot. 2. Label specimen as blood for IABC / B-Cell Phenotyping Screen for Immunodeficiency and Immune Competence Assessment, Blood. Specimen Stability Information: Refrigerated <48 hours

Specimen Minimum Volume: TBBS: 1 mL IABC < or =14 years: 3 mL >14 years: 5 mL

Transport Temperature:
Whole Blood EDTA Varies 48 hours

CPT Code Information: T- and B-Cell Quantitation by Flow Cytometry; 86355-B cells, total count; 86357-Natural killer (NK) cells, total count; 86359-T cells, total count; 86360-Absolute CD4/CD8 count with ratio; ; B-Cell Phenotyping Screen for Immunodeficiency and Immune Competence Assessment, Blood; 88184-Flow cytometry, first marker; 88185 x 7-Flow cytometry, each additional marker; ; Common Variable Immunodeficiency Confirmation Flow Panel; 88184-Flow cytometry, first marker (if appropriate); 88185 x 2-Flow cytometry, each additional marker (if appropriate);

BALLF 35256

B-Lymphoblastic Leukemia/Lymphoma, FISH

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

Specimen Minimum Volume: Blood: 2 mL Bone Marrow: 1 mL
Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

B-Type Natriuretic Peptide (BNP), Plasma

Specimen Requirements: Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Centrifuge, remove plasma from cells, and freeze immediately or within 7 hours from time of collection. Additional Information: Include patient's age and sex.

Specimen Minimum Volume: 0.4 mL

Transport Temperature: Plasma EDTA Frozen 365 days

CPT Code Information: 83873

Babesia microti IgG Antibodies, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.15 mL

Transport Temperature: Serum Refrigerated (preferred) 14 days Frozen 14 days

CPT Code Information: 81128

Babesia species, Molecular Detection, PCR, Blood

Specimen Requirements: Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature: Whole Blood EDTA Refrigerated (preferred) 7 days Frozen 7 days

CPT Code Information: 82847

800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Bacterial Culture, Aerobic**

**Specimen Requirements:** Preferred: Specimen Type: Closed abscess Container/Tube: Sterile container Specimen Volume: Entire collection Collection Instructions: Aspirate the abscess contents with a syringe. Acceptable: Supplies: Culturette (BBL Culture Swab) (T092) Specimen Type: Open abscess, swab, tissue, or fluid Sources: Abscess, aspirate, lesion, or wound Container/Tube: Sterile container or culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium) (T092) Collection Instructions: For most open lesions and abscesses, remove superficial flora by decontaminating skin before collecting a specimen from advancing margin or base. Additional Information: 1. If submitting a specimen from a source contaminated with usual flora, send at refrigerated temperature. 2. Refrigerated specimens are not suitable for isolation of Neisseria species.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Varies Ambient (preferred) 24 hours
- Refrigerated 24 hours

**CPT Code Information:** 87070-Bacterial, Culture, Aerobic; 87077-Identification commercial kit (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate); 87077-Bacteria identification (if appropriate); 87077-Additional identification procedure (if appropriate); 87077-Identification Staphylococcus (if appropriate); 87077-Identification Streptococcus (if appropriate); 87147 x 3-Serologic agglut method 1 ident (if appropriate); 87147-Serologic agglut method 2 ident (if appropriate); 87147 x 4-Serologic agglut method 3 ident (if appropriate); 87147 x 2-6 - Serologic Agglut Method 4 Ident (if appropriate); 87153-Aerobe ident by sequencing (if appropriate); 87176-Tissue processing (if appropriate); 87185-Beta lactamase (if appropriate); 87185-Carbapenemase detection, Carba NP test (if appropriate); 87798 x 2-KPC and NDM PCR (if appropriate); 87798-Identification by PCR (if appropriate); 87150-Gram-Negative Resistance Genes, PCR (if appropriate); 87798 x 2-OXA-48 and VIM PCR (if appropriate);

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**Bacterial Culture, Aerobic, Respiratory**

**Specimen Requirements:** Patient Preparation: Have patient rinse his/her mouth with water immediately prior to specimen collection. This reduces the number of contaminating oropharyngeal bacteria. Specimen Type: Respiratory Sources: Sputum, bronchoalveolar lavage, trachea, endotracheal tube, etc. Container/Tube: Sterile container Specimen Volume: Entire specimen Collection Instructions: An early-morning expectorated sputum is preferred.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Varies Refrigerated 24 hours

**CPT Code Information:** 87070-Bacteria, Culture, Aerobic, Respiratory ; 87077-Identification Commercial Kit (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate); 87077-Bacteria Identification (if appropriate); 87153-Aerobe ident by sequencing (if appropriate); 87077-Additional Identification Procedure (if appropriate); 87147 x 3-Serologic Agglut Method 1 Ident (if appropriate); 87147-Serologic Agglut Method 2 Ident (if appropriate); 87147 x 4-Serologic Agglut Method 3 Ident (if appropriate); 87147 x 2-6 - Serologic Agglut Method 4 Ident (if appropriate); 87077-Identification Staphylococcus (if appropriate); 87077-Identification Streptococcus (if appropriate); 87185-Beta Lactamase (if appropriate); 87798 x 2-KPC and NDM PCR (if appropriate); 87185-Carbapenemase detection, Carba NP test (if appropriate); 87798-Identification by PCR (if appropriate); 87150-Gram-Negative Resistance Genes, PCR (if appropriate); 87798 x 2-OXA-48 and VIM PCR (if appropriate);
**Bacterial Culture, Aerobic, Urine**

**Specimen Requirements:** Supplies: Urine tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 1 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 24 hours
- Ambient 2 hours

**CPT Code Information:** 87086-Bacterial Culture, Aerobic, Urine; 87077-Identification Commercial Kit (if appropriate); 87077-Iden by MALDI-TOF mass spec (if appropriate); 87077-Bacteria Identification (if appropriate); 87153-Aerobe Ident by Sequencing (if appropriate); 87077-Additional Identification Procedure (if appropriate); 87147 x 3-Serologic Agglut Method 1 Ident (if appropriate); 87147-Serologic Agglut Method 2 Ident (if appropriate); 87147 x 4-Serologic Agglut Method 3 Ident (if appropriate); 87147 x 2-6 - Serologic Agglut Method 4 Ident (if appropriate); 87077-Identification Staphylococcus (if appropriate); 87185-Additional Identification Procedure (if appropriate); 87147-Serologic Agglut Method 1 Ident (if appropriate); 87147-Serologic Agglut Method 2 Ident (if appropriate); 87147-Serologic Agglut Method 3 Ident (if appropriate); 87147-Serologic Agglut Method 4 Ident (if appropriate); 87077-Identification Streptococcus (if appropriate); 87185-Additional Identification Procedure (if appropriate); 87147-Serologic Agglut Method 1 Ident (if appropriate); 87147-Serologic Agglut Method 2 Ident (if appropriate); 87147-Serologic Agglut Method 3 Ident (if appropriate); 87147-Serologic Agglut Method 4 Ident (if appropriate); 87153-Gram-Negative Resistance Genes, PCR (if appropriate); 87798 x 2-48 and VIM PCR (if appropriate).

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**Bacterial Culture, Anaerobic**

**Specimen Requirements:** Specimen Types: Abscesses, percutaneous transtracheal aspirates, sterile body fluids, suprapubic aspirations, or wounds Supplies: Anaerobe Transport Tube (T588) Collection Instructions: Specimen should be obtained by using a needle and syringe from a source not normally colonized by anaerobes.

**Transport Temperature:**
- Varies Ambient 72 hours

**CPT Code Information:** 87075-Bacterial Culture, Anaerobic; 87076-Id MALDI-TOF Mass Spec Anaerobe (if appropriate); 87153-Anaerobe Ident by Sequencing (if appropriate); 87176-Tissue Processing (if appropriate); 87185-Beta lactamase (if appropriate); 87798-Identification by PCR (if appropriate); 87798-Identification by PCR (if appropriate); 87150-Gram-Negative Resistance Genes, PCR (if appropriate); 87798 x 2-48 and VIM PCR (if appropriate).

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**Bacterial Culture, Cystic Fibrosis, Respiratory**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Sputum, expectorated or induced Container/Tube: Sterile container Specimen Volume: Entire collection Acceptable: Specimen Type: Bronchial aspirate or washing, bronchoalveolar lavage, endotracheal, or tracheal Container/Tube: Sterile container Specimen Volume: Entire collection Specimen Type: Throat swab Supplies: Culturette (BBL Culture Swab) (T092) Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Specimen Volume: Swab

**Specimen Minimum Volume:** 2 mL
**Transport Temperature:**
Varies Refrigerated 48 hours

**CPT Code Information:**
87070-Bacteria, culture, cystic fibrosis, respiratory ; 87077-Identification commercial kit (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate); 87077-Bacteria Identification (if appropriate); 87077-Additional Identification procedure (if appropriate); 87077-Identification Staphylococcus (if appropriate); 87077-Identification Streptococcus (if appropriate); 87147 x 5-Serologic agglut method 1 ident (if appropriate); 87147-Serologic agglut method 2 ident (if appropriate); 87147 x 4-Serologic agglut method 3 ident (if appropriate); 87147 x 2-6 - Serologic Agglut Method 4 Ident (if appropriate); 87153-Aerobe Ident by sequencing (if appropriate); 87185-Beta lactamase (if appropriate); 87185-Carbapenemase detection, Carba NP test (if appropriate); 87798 x 2-KPC and NDM PCR (if appropriate); 87798-Identification by PCR (if appropriate); 87150-Gram-Negative Resistance Genes, PCR (if appropriate); 87798 x 2-OXA-48 and VIM PCR (if appropriate); 87152

**PFGE**

**Bacterial Typing by Pulsed-Field Gel Electrophoresis (PFGE)**

**Specimen Requirements:**
Supplies: Infectious Container, Large (T146) Container/Tube: Agar slant Specimen Volume: Isolates on separate agar slants in pure culture Collection Instructions: Organism must be in pure culture, actively growing. Do not submit mixed cultures. Additional Information: 1. Each slant must be submitted under a separate order. 2. Original isolates should be saved at the client site if additional PFGE testing may be needed (eg, to compare to future outbreak isolates that may occur).

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:** 87152

**BTWGS**

**Bacterial Typing by Whole Genome Sequencing**

**Specimen Requirements:**
Supplies: Infectious Container, Large (T146) Container/Tube: Agar slant Specimen Volume: Isolates on separate agar slants in pure culture Collection Instructions: 1. Isolate the bacteria (must be Staphylococcus aureus, Acinetobacter baumannii, Klebsiella pneumoniae, Legionella pneumophila, or Clostridioides (Clostridium) difficile. 2. Bacterial organism must be in pure culture, actively growing. Do not submit mixed cultures.

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:** 0010U-Bacterial Typing, Whole Genome Seq; 87900-Bioinformatics Reanalysis (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate); 87153-Aerobe ident by sequencing (if appropriate); 87077-Additional identification procedure (if appropriate);

**BAHG**

**Bahia Grass, IgE**

**Specimen Requirements:**
Container/Tube:Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from
the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**BYST 82759**

**Baker's Yeast, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**BCYP 82722**

**Bald Cypress, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**BAMB 82879**

**Bamboo Shoot, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 121
**CPT Code Information:** 86003

<table>
<thead>
<tr>
<th>FBANG</th>
<th>Banana IgG</th>
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<tbody>
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**Specimen Requirements:**
Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen: 365 days
  - Ambient: 7 days

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<th>BANA</th>
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**Specimen Requirements:**
Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen: 90 days

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<th>BAP1</th>
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**Specimen Requirements:**
Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 86003

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<th>Barbiturates Confirmation, Chain of Custody, Urine</th>
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**CPT Code Information:** 86001
Specimen Requirements: Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL. Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting <20 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 5 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours

CPT Code Information: 80345; G0480 (if appropriate);

Barbiturates Confirmation, Urine

Specimen Requirements: Container/Tube: Plastic, 60-mL urine bottle. Specimen Volume: 20 mL. Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order BARBX / Barbiturates Confirmation, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 6. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 5 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours

CPT Code Information: 80345; G0480 (if appropriate);

Barium, Serum

Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a EDTA metal-free royal blue-top tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL metal-free EDTA plasma refrigerated in a plastic vial. Serum Draw blood in a metal-free royal blue-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL metal-free serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours
**CPT Code Information:** 83018

### Barley Grass, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### Barley IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

### Barley, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

### Bartonella Antibody Panel, IFA CSF

**Specimen Requirements:** Specimen Type: Spinal Fluid Sources: CSF Container/Tube: Sterile
container 

Specimen Volume: 1 mL 
Collection Instructions: Collect 1 mL of spinal fluid (CSF). Ship refrigerate

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
CSF Refrigerated (preferred) 14 days

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**CPT Code Information:** 86611 x 4

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**BART**

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**Bartonella Antibody Panel, IgG and IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top 
Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 30 days

<table>
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**CPT Code Information:** 86611 x 4

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**BARRP**

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**Bartonella, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Bartonella species DNA is unlikely. Submit only 1 of the following specimens: 
Specimen Type: Fresh tissue or biopsy 
Sources: Heart valve, liver, lymph node, spleen, or skin tissue papule/lesion/nodule 
Container/Tube: Sterile container 
Specimen Volume: Entire collection or 5 mm(3)

Collection Instructions: Collect fresh tissue specimen. 

**Specimen Stability Information:** Refrigerated (preferred) <7 days/ Frozen <7 days 
Supplies: Tissue Block Container (T553) 
Specimen Type: Paraffin-embedded tissue block 
Sources: Heart valve, liver, lymph node, spleen, or skin tissue papule/lesion/nodule 
Container/Tube: Sterile container for cut sections or Tissue Block Container (T553) 
Specimen Volume: Submit formalin-fixed, paraffin-embedded tissue block to be cut and returned. Alternatively, perform cuts and place two to five 10-micron sections in a sterile container for submission 
Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Fluid 
Sourcers: Cerebrospinal or ocular (eg, vitreous humor fluid) 
Container/Tube: Sterile vial 
Specimen Volume: 0.5 mL 
Specimen Stability Information: Refrigerated (preferred) <7 days/Frozen <7 days 
Specimen Type: Synovial fluid 
Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container 
Specimen Volume: 0.5 mL 
Collection Instructions: Send specimen in original tube (preferred). 
Specimen Stability Information: Refrigerated <7 days (preferred)/Frozen <7 days

**Specimen Minimum Volume:** Fresh tissue or biopsy: 5 mm(3) Paraffin-embedded tissue block: two 10-micron sections Fluid: 0.5 mL

**Transport Temperature:**
Varies

**CPT Code Information:** 87801

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Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 125
BARTB 89983

Bartonella, Molecular Detection, PCR, Blood

Specimen Requirements: The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Bartonella species DNA is unlikely. Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot Specimen Volume: 1 mL Collection Instructions: Send specimen in original tube (preferred).

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred) 7 days
Ambient 7 days
Frozen 7 days

CPT Code Information: 87801

BMAMA 113630

Basic Metabolic Panel, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Refrigerated 24 hours

CPT Code Information: 84132; 84295; 82435; 82374; 84520; 82565; 82310; 82947;

FBSLG 57660

Basil IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

BASL 82489

Basil, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**Bass Black (Sea Bass) (Centropristis striata) IgE**

**Specimen Requirements:** Draw blood in a plain red top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

**CPT Code Information:** 86003

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**Bay Leaf, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**Bayberry/Wax Myrtle (Myrica spp) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days
**CPT Code Information**: 86003

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**BCL2**

**70362**

**BCL-2 Immunostain, Technical Component Only**

**Specimen Requirements**: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature**:

TECHONLY Ambient (preferred)

Refrigerated

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**CPT Code Information**: 88342-TC, primary; 88341-TC, if additional IHC;

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**BCL6**

**70363**

**BCL-6 Immunostain, Technical Component Only**

**Specimen Requirements**: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature**:

TECHONLY Ambient (preferred)

Refrigerated

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**CPT Code Information**: 88342-TC, primary; 88341-TC, if additional IHC;

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**BA190**

**83336**

**BCR/ABL, p190, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Monitoring Assay**

**Specimen Requirements**: Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume**: 1 mL

**Transport Temperature**:

Varies Refrigerated (preferred) 5 days

Ambient 72 hours

**CPT Code Information**: 81207-BCR/ABL1 (t[9;22]) (eg, chronic myelogenous leukemia) translocation analysis; minor breakpoint, qualitative or quantitative
BCRX 65248

BCR/ABL1 Qualitative Diagnostic Assay with Reflex to BCR/ABL1 p190 Quantitative Assay or BCR/ABL1 p210 Quantitative Assay

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD Specimen Volume: 10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** Blood: 4 mL Bone Marrow: 1 mL

**Transport Temperature:**
- Refrigerated (preferred) 72 hours
- Ambient 72 hours

**CPT Code Information:** 81208-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; other breakpoint, qualitative ; 81206-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; major breakpoint, qualitative ; 81207-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; minor breakpoint, qualitative ; 81206-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; major breakpoint, quantitative (If appropriate); 81207-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; minor breakpoint, quantitative (If appropriate);

922F 35310

BCR/ABL1 Translocation (9;22), FISH

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL; Bone Marrow: 1 mL

**Transport Temperature:**
- Ambient
- Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271 x 1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

B190R 48391

BCR/ABL1, p190, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Reflex

**Specimen Requirements:** Only orderable as a reflex. See BCRFX / BCR/ABL1 Qualitative
Diagnostic Assay with Reflex to BCR/ABL1 p190 Quantitative Assay or BCR/ABL1 p210.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred)  72 hours
- Ambient  72 hours

**CPT Code Information:** 81207-BCR/ABL1 (t[9;22]) (eg, chronic myelogenous leukemia) translocation analysis; minor breakpoint, qualitative or quantitative

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**BCR/ABL1, p210, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Monitoring Chronic Myeloid Leukemia (CML)**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume:  10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume:  3 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:**
- Blood: 4 mL
- Bone Marrow: 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred)  72 hours
- Ambient  72 hours

**CPT Code Information:** 81206-BCR/ABL1 (t[9;22]) (eg, chronic myelogenous leukemia) translocation analysis; major breakpoint, qualitative or quantitative

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**BCR/ABL1, p210, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Reflex**

**Specimen Requirements:** Only orderable as a reflex. See BCRFX / BCR/ABL1 Qualitative Diagnostic Assay with Reflex to BCR/ABL1 p190 Quantitative Assay or BCR/ABL1 p210.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred)  72 hours
- Ambient  72 hours

**CPT Code Information:** 81206-BCR/ABL1 (t[9;22]) (eg, chronic myelogenous leukemia) translocation analysis; major breakpoint, qualitative or quantitative

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**BCR/ABL1, Qualitative, Diagnostic Assay**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3.
Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 5 days
- Ambient 5 days

**CPT Code Information:**
- 81206-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; major breakpoint, qualitative or quantitative
- 81207-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; minor breakpoint, qualitative or quantitative
- 81208-BCR/ABL1 (t(9;22)) (eg, chronic myelogenous leukemia) translocation analysis; other breakpoint, qualitative or quantitative

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**BAKDM**

**BCR/ABL1, Tyrosine Kinase Inhibitor Resistance, Kinase Domain Mutation Screen, Sanger Sequencing**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: EDTA (lavender top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Acceptable: Specimen Type: Bone marrow Container/Tube: EDTA (lavender top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 5 days
- Ambient 72 hours

**CPT Code Information:** 81170-ABL1 (ABL proto-oncogene 1, non-receptor tyrosine kinase)(eg, acquired imatinib tyrosine kinase inhibitor resistance), gene analysis, variants in the kinase domain

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**FBEBE**

**Bean Black (Phaseolus spp) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**FBCGG**

**Bean Coffee Green IgG**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

**FBGSG** 57522  
**Bean Green/String IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

**FBKG** 57662  
**Bean Kidney IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

**FBLME** 57523  
**Bean Lima (Phaseolus limensis) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
Bean Navy/White (Phaseolus vulgaris) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

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Bean Navy/White IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

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Beckwith-Wiedemann Syndrome (BWS)/Russell-Silver Syndrome (RSS) Molecular Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Confluent cultured cells
Container/Tube: T-25 flask  
Specimen Volume: 2 flasks  
Collection Instructions: Submit confluent cultured cells from another laboratory.  
Specimen Stability Information: Ambient (preferred)/Refrigerated  
Specimen Type: Skin biopsy  
Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]).  
Specimen Volume: 4-mm punch  
Specimen Stability Information: Refrigerated (preferred)/Ambient

**Specimen Minimum Volume:**  
Blood: 1 mL  
Amniotic Fluid: 10 mL

**Transport Temperature:**  
Varies

**CPT Code Information:**  
81401 H19 (imprinted maternally expressed transcript [non-protein coding]) (eg, Beckwith-Wiedemann syndrome), methylation analysis;  
81401 KCNQ1OT1 (KCNQ1 overlapping transcript 1 [non-protein coding]) (eg, Beckwith-Wiedemann syndrome) methylation analysis;  
81401-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

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**BEECH**  
**82669**  
**Beech, IgE**

**Specimen Requirements:**  
Container/Tube: Preferred: Red top Acceptable: Serum gel  
Specimen Volume: 0.5 mL for each 5 allergens requested  
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:**  
For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

**CPT Code Information:**  
86003

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**FBEFG**  
**57626**  
**Beef IgG**

**Specimen Requirements:**  
Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:**  
0.5 mL

**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 7 days

**CPT Code Information:**  
86001
**BREG 82692**

**Beef Neutral-Regular Insulin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**BEEF 82697**

**Beef, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FBTRG 57689**

**Beet Root IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**BEETS 82618**

**Beets (Beetroot), IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003
number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**FPHEN**

**Benzene as Phenol, Occupational Exposure, Urine**

**Specimen Requirements:** Collect 10 mL random urine without preservatives. Ship refrigerated in a plastic container.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 180 days

**CPT Code Information:** 82570/Creatinine; 84600/Volatiles;

**FBEN**

**Benzene, Occupational Exposure, Blood**

**Specimen Requirements:** Draw blood in a green-top (sodium heparin) tube(s) and send 20 mL in two tubes of sodium heparin whole blood refrigerated. Blood should be drawn at end of shift. Tubes should be filled to prevent loss of volatile compound into headspace.

**Specimen Minimum Volume:** 2.5 mL (in two tubes)

**Transport Temperature:**
WB Sodium Heparin Refrigerated (preferred) 14 days
Frozen 365 days

**CPT Code Information:** 84600

**BENZX**

**Benzodiazepines Confirmation, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours
BENZU 80370

Benzodiazepines Confirmation, Urine

**Specimen Requirements:** Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 4. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days

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CPT Code Information: 80346; G0480 (if appropriate);

FBENZ 90092

Benztropine (Cogentin), Serum

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days

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CPT Code Information: 80375

BEREP 70364

Ber-EP4 (Epithelial Cell Adhesion Molecule/EPCAM) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)

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CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
**BBEET**

**Berlin Beetle, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**BERG**

**Bermuda Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**FBERY**

**Beryllium, Blood**

**Specimen Requirements:** Draw blood in a metal free, royal blue-top with EDTA tube(s). Send 2 mL of EDTA whole blood refrigerated.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole Blood EDTA - Metal Free (ERB) Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 83018

**WBSEQ**

**Beta Globin Gene Sequencing, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD, sodium heparin Specimen Volume: 3 mL Collection Instructions: Do not transfer blood to other containers

**Specimen Minimum Volume:** 1 mL
Transport Temperature:
Whole Blood EDTA Refrigerated 14 days

CPT Code Information: 81364-HBB (hemoglobin, beta) full sequence

FBLGG
57667
Beta Lactoglobulin IgG
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

AB2GP
86180
Beta-2 Glycoprotein 1 Antibodies, IgA, Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.4 mL
Transport Temperature:
Serum Refrigerated (preferred) 21 days
Frozen 21 days

CPT Code Information: 86146

B2GMG
62926
Beta-2 Glycoprotein 1 Antibodies, IgG and IgM, Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.4 mL
Transport Temperature:
Serum Refrigerated (preferred) 21 days
Frozen 21 days

CPT Code Information: 86146 x 2

GB2GP
86182
Beta-2 Glycoprotein 1 Antibodies, IgG, Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86146

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**MB2GP 86181**

**Beta-2 Glycoprotein 1 Antibodies, IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86146

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**B2MU 602026**

**Beta-2 Microglobulin (B2M), Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 5 mL Container/Tube: Plastic, urine tube Specimen Volume: 3 mL Collection Instructions: 1. Patient should empty bladder. 2. Have patient drink at least 0.5 liters of water. 3. Within 1 hour, collect a random urine specimen. 4. Add 1 M NaOH as preservative to the collection. This preservative is intended to achieve a pH of between approximately 6 and 8.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Frozen (preferred) 14 days
- Refrigerated 48 hours

**CPT Code Information:** 82232

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**BETA2 80351**

**Beta-2 Transferrin: Detection of Spinal Fluid in Other Body Fluid**

**Specimen Requirements:** Specimen Type: Body fluid Sources: Nasal, otic, wound, etc Container/Tube: Preferred: Sterile container, syringe, test tube, or microtube Acceptable: Plain cotton swab or gauze Specimen Volume: 0.5 mL Collection Instructions: 1. If submitting a syringe, remove needle. Add cap to end of syringe. 2. If direct collection is not feasible, specimen may be collected using a plain cotton swab or gauze. 3. If gauze is used to collect specimen, circle area on the gauze where specimen was collected. 4. Place cotton swab or gauze in as small a container as possible (e.g., plain test tube or collection container). 5. Do not collect specimen with a culture swab. 6. Do not add any liquid to the swab or gauze. Additional Information: 1. Samples collected from above the shoulders risk salivary contamination, which can degrade the beta-2 transferrin protein. These samples should be frozen.
immediately following collection and kept frozen until testing is performed. 2. Although results may be obtainable on smaller specimens (perhaps as little as 0.05 mL, depending on the protein concentrations and percentage of spinal fluid in the specimen), reliable results are best obtained with an adequate specimen volume. 3. Samples collected with additives such as microbiology media (eg, Stuart or Amies liquid medium) or TransFix/EDTA (used for analyses in flow cytometry) yield uninterpretable results and will be rejected.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid: Frozen (preferred)
- Ambient
- Refrigerated

**CPT Code Information:** 86335

**B2M 9234**

**Beta-2-Microglobulin (Beta-2-M), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 82232

**B2MC 60546**

**Beta-2-Microglobulin (Beta-2-M), Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- CSF: Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 82232

**BAMY 70634**

**Beta-Amyloid Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**Beta-Catenin (CTNNB1) Mutation Analysis, Tumor**

Specimen Requirements: Preferred: Specimen Type: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable: Specimen Type: Slides Slides: 1 stained and 10 unstained slides Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides (nonbaked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology (direct smears or ThinPrep) Container/Tube: Cytology slide Slides: 1-2 slides Collection Instructions: Submit 1-2 slides stained and coverslipped with at least 5,000 total nucleated cells Additional Information: Cytology slides will not be returned.

Specimen Minimum Volume: See Specimen Required field.

Transport Temperature: Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: 81403; 88381;

**Beta-Catenin Immunostain, Technical Component Only**

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature: TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**Beta-CrossLaps (Beta-CTx), Serum**

Specimen Requirements: Patient Preparation: 1. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. 2. Fasting Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Draw specimen prior to 10 a.m.

Specimen Minimum Volume: 0.4 mL
Transport Temperature:
Serum Frozen (preferred) 90 days
Refrigerated 72 hours

CPT Code Information: 82523

BGAW
60987
Beta-Galactosidase, Blood
Specimen Requirements: Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 2 mL
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Whole blood Ambient (preferred) 7 days
Refrigerated 7 days

CPT Code Information: 82657

BGABS
60986
Beta-Galactosidase, Blood Spot
Specimen Requirements: Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood spot collection card (T493) Acceptable: Ahlstrom 226 Filter Paper and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is fingerstick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.
Specimen Minimum Volume: 1 blood spot
Transport Temperature:
Whole blood Ambient (preferred) 28 days
Frozen 90 days
Refrigerated 90 days

CPT Code Information: 82657

BGA
8486
Beta-Galactosidase, Leukocytes
Specimen Requirements: Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.
Specimen Minimum Volume: 5 mL
Transport Temperature:
Whole Blood ACD Refrigerated (preferred) 72 hours
CPT Code Information: 82657

**Beta-Globin Cluster Locus Deletion/Duplication**

**Specimen Requirements:** Specimen Type: Peripheral blood Collection Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in the original tube.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Varies Varieties

CPT Code Information: 81363-HBB (hemoglobin, beta, beta-globin) (eg, beta thalassemia), duplication/deletion analysis

**Beta-Globin Cluster Locus Deletion/Duplication, Blood**

**Specimen Requirements:** Only orderable as a reflex. For more information see: -HAEVP / Hemolytic Anemia Evaluation -HBELC / Hemoglobin Electrophoresis Cascade, Blood -MEVP / Methemoglobinemia Evaluation -REVE / Erythrocytosis Evaluation -THEVP / Thalassemia and Hemoglobinopathy Evaluation Specimen Type: Peripheral blood Collection Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in the original tube.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated

CPT Code Information: 81363-HBB (hemoglobin, beta, beta-globin) (eg, beta thalassemia), duplication/deletion analysis:

**Beta-Globin Gene Sequencing, Blood**

**Specimen Requirements:** Only orderable as a reflex. For more information see: -HAEVP / Hemolytic Anemia Evaluation -HBELC / Hemoglobin Electrophoresis Cascade, Blood -MEVP / Methemoglobinemia Evaluation -REVE / Erythrocytosis Evaluation -THEVP / Thalassemia and Hemoglobinopathy Evaluation

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated 14 days

CPT Code Information: 81364-HBB (hemoglobin, beta) full sequence

**Beta-Glucosidase, Leukocytes**

CPT Code Information: 82657
**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Whole Blood ACD Refrigerated (preferred) 4 days

Ambient 48 hours

**CPT Code Information:** 82963

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**BHCG**

**Beta-Human Chorionic Gonadotropin, Quantitative, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days

Frozen 180 days

**CPT Code Information:** 84702

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**BHSF**

**Beta-Human Chorionic Gonadotropin, Quantitative, Spinal Fluid**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Sterile vial Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
CSF Refrigerated (preferred) 28 days

Frozen 14 days

**CPT Code Information:** 84702

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**BHYD**

**Beta-Hydroxybutyrate, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Frozen (preferred)  7 days
Refrigerated  7 days

CPT Code Information: 82010

**BLACT 8118**

**Beta-Lactamase**

**Specimen Requirements:** Specimen Type: Pure culture of actively growing Enterococcus species, Haemophilus influenzae, Moraxella catarrhalis, Neisseria gonorrhoeae, or Staphylococcus species
Container/Tube: Slant Specimen Volume: Entire specimen
Collection Instructions: Send specimen in an approved mailing container and label as an etiologic agent/infectious substance.

**Specimen Minimum Volume:** NA

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

CPT Code Information: 87185

**BLAC 82896**

**Beta-Lactoglobulin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86008

**IBETH 7288**

**Bethesda Units**

**Transport Temperature:**
- Plasma Na Cit Frozen 14 days

CPT Code Information: 85335

**HCO3 876**

**Bicarbonate, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL
Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.
**FBIU 90357**

**Bicarbonate, Urine**

**Specimen Requirements:** Send 1 mL from a random urine collection. Send specimen refrigerated in a preservative free plastic urine container.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**

- Urine Refrigerated (preferred) 30 days
- Frozen 30 days
- Ambient 48 hours

**CPT Code Information:** 82374

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**BAPS 62538**

**Bile Acid Profile, Serum**

**Specimen Requirements:** Patient Preparation: Patient must be fasting for 12 to 14 hours. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 90 days
- Ambient 90 days
- Frozen 90 days

**CPT Code Information:** 82542

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**BAIPD 41445**

**Bile Acids for Peroxisomal Disorders, Serum**

**Specimen Requirements:** Patient Preparation: Patient must be fasting for 12-14 hours. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 90 days
- Ambient 90 days
- Frozen 90 days

**CPT Code Information:** 82542
Bile Acids, Bowel Dysfunction, 48 Hour, Feces

**Specimen Requirements:**
Patient Preparation: For 3 days prior to and during the collection period:
1. Patient should be on a fat-controlled diet (100-150 g fat per day) 2. No laxatives (particularly mineral oil and castor oil) 3. No synthetic fat substitutes (eg, Olestra) or fat-blocking nutritional supplements

Supplies: Stool Containers - 24, 48, 72 Hours Kit (T291) Collection Container/Tube: Stool container (T291); complies with shipping requirements, do not use other containers

Specimen Volume: Entire 48-hour collection

Collection Instructions: 1. Do not use other containers. 2. All containers must be sent together. 3. The entire collection must contain at least 5 g of feces. 4. The number of containers sent should be indicated on the labels (1 of 4, for example).

Additional Information: 1. Patient may store sample at refrigerate temperature during collection period. 2. Barium interferes with test procedure; a waiting period of 48 hours before stool collection analysis is recommended.

**Specimen Minimum Volume:** 5 g

**Transport Temperature:**
Fecal Frozen 30 days

**CPT Code Information:** 82542

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Bile Acids, Fractionated and Total, Serum

**Specimen Requirements:**
Patient Preparation: Patient must be fasting for 12-14 hours.

Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial

Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 90 days

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**CPT Code Information:** 82542

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Bile Acids, Total, Serum

**Specimen Requirements:**
Patient Preparation: 12-hour minimum fasting is required.

Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial

Specimen Volume: 0.5 mL

Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days

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FBAC
75012

**Bile Acids, Urine**

**Specimen Requirements:**
- **Collection Container:** Plastic urine container
- **Specimen Volume:** 5-25 mL
- **Collection Instructions:** Collect 5-25 mL random urine without preservative. Ship frozen in a plastic container. 
  - **NOTE:** Submit with specimen: 1. Clinical history/Preliminary diagnosis -Because URSO can mask detection of bile acid synthetic defects it is preferable for patients to be off Urso or Actigall for 5 days before sample collection. -If possible, send Urine & Serum (ZW166 - Bile Acids Serum, referral lab code 503). Urine is analyzed for all patients - if Urine shows evidence of a metabolic abnormality, Serum will be tested. Urine and serum must be ordered separately as they are 2 separate tests with separate charges.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- **Urine Frozen (preferred)**
- **Ambient 48 hours**
- **Refrigerated**

CPT Code Information: 82239

BILAO
71917

**Biliary Tract Malignancy, FISH**

**Specimen Requirements:**
- **Supplies:** PreservCyt Vial (T536) CytoLyt Solution (T564)
- **Specimen Type:** Bile duct brushing, bile duct aspirate, hepatobiliary brushing, or hepatobiliary aspirate
- **Container/Tube:** Separate ThinPrep vial containing 20 mL PreservCyt or CytoLyt solution (T536) for each specimen
- **Specimen Volume:** Entire collection
- **Collection Instructions:** Label with site specimen was collected from (eg, right hepatic duct or common bile duct). Note: Pancreatic mass, pancreatic cyst, or pancreatic fine-needle aspirate specimens are not acceptable.

**Specimen Minimum Volume:** 20 mL

**Transport Temperature:**
- **Varies Refrigerated (preferred)**
- **Ambient**

CPT Code Information: 83789

FBILM
70587

**Biliary Tract Malignancy-Cytology, FISH**

**Specimen Requirements:**
- **Supplies:** PreservCyt Vial (T536) CytoLyt Solution (T564)
- **Specimen Type:** Bile duct brushing, bile duct aspirate, hepatobiliary brushing, or hepatobiliary aspirate
- **Container/Tube:** Separate ThinPrep vial containing 20 mL PreservCyt (T536) or CytoLyt solution (T564) for each specimen
- **Specimen Volume:** Entire collection
- **Collection Instructions:** Label with site specimen was collected from (eg, right hepatic duct or common bile duct).

**Specimen Minimum Volume:** 20 mL

**Transport Temperature:**
- **Varies Refrigerated (preferred)**
Ambient

CPT Code Information: 88112; 88377-BILMA/BILMB/etc (if appropriate);

**BILID**

**81787**

**Bilirubin Direct, Serum**

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Amber tube (T192) Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 24 hours
- Frozen 30 days
- Ambient 6 hours

CPT Code Information: 82248

**AFBIL**

**8390**

**Bilirubin, Amniotic Fluid**

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Amniotic fluid container Submission Container/Tube: Opaque, amber vial (T192) Specimen Volume: 3.5 mL Collection Instructions: 1. Centrifuge, separate supernatant, and send both supernatant and sediment. 2. Label specimens as sediment and supernatant.

**Specimen Minimum Volume:** 1.7 mL

**Transport Temperature:**

- Amniotic Fld Frozen 70 days

CPT Code Information: 82247

**BFBL**

**34621**

**Bilirubin, Body Fluid**

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Body fluid container Submission Container/Tube: Opaque, amber vial (T192) Specimen Volume: 1 mL Collection Instructions: 1. Centrifuge, separate supernatant, and send both supernatant and sediment. 2. Label specimens as sediment and supernatant.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Body Fluid Frozen (preferred) 70 days
- Refrigerated 14 days

CPT Code Information: 82247
Bilirubin, Serum

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Amber vial (T192) Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 24 hours
- Frozen 30 days
- Ambient 6 hours

**CPT Code Information:** 82247-Bilirubin, total; 82248-Bilirubin, direct;

Bilirubin, Total, Serum

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Amber vial (T192) Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days
- Ambient 24 hours

**CPT Code Information:** 82247

Bilirubin, Urine

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Submission Container/Tube: Amber vial (T192) Specimen Volume: 5 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred)
- Frozen

**CPT Code Information:** 81002
**Biotinidase Deficiency, BTD Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Varies Ambient
(preferred)

Frozen

Refrigerated

**CPT Code Information:** 81404-BTD (biotinidase) (eg, biotinidase deficiency), full gene sequence

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**BIOTS 88205**

**Biotinidase, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down immediately and remove serum.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Frozen (preferred) 21 days

Refrigerated 5 days

**CPT Code Information:** 82261

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**FBFPI 57925**

**Bird Fancier’s Precipitin Panel I**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days

Ambient 28 days

Frozen 28 days

**CPT Code Information:** 86331 x 10

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**FLCNZ 35425**

**Birt-Hogg-Dube Syndrome, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred:
Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Specimen preferred to arrive within 96 hours of collection. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies

Ambient (preferred)

Frozen

Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure code

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**BIWB 64274**

**Bismuth, Blood**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Collection Container/Tube: Preferred: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: 0.8 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Whole blood Refrigerated (preferred) 28 days

Ambient 28 days

Frozen 28 days

**CPT Code Information:** 83018

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**FBIS 91125**

**Bismuth, Serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in an EDTA metal-free royal blue-top tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL metal-free EDTA plasma refrigerated. Serum Draw blood in a metal-free plain royal blue top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of metal-free serum refrigerated.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days

Frozen 180 days

Ambient 72 hours

**CPT Code Information:** 83018
Bismuth, Urine

**Specimen Requirements:** 10 mL from a random or spot urine collected in a metal-free or acid-washed container. Send specimen refrigerated.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 83018

BK Virus, Molecular Detection, PCR, Plasma

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: Spin down and separate plasma within 24 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma EDTA Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 87798

BK Virus, Molecular Detection, PCR, Urine

**Specimen Requirements:** Container/Tube: Sterile urine container Specimen Volume: 1 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 87798

BK Virus, Molecular Detection, Quantitative, PCR, Plasma

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL Collection Instructions: Separate plasma within 24 hours of collection.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Plasma EDTA Refrigerated (preferred) 14 days
- Frozen 14 days
BK Virus, Molecular Detection, Quantitative, PCR, Urine

Specimen Requirements: Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 1 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days

Black/White Pepper, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

Blackberry, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

Blastomyces Antibody by EIA, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL
Specimen Minimum Volume: 0.8 mL
Transport Temperature:
Serum Refrigerated (preferred)  14 days
  Frozen  14 days

CPT Code Information: 86612

SBL
8237
Blastomyces Antibody by Immunodiffusion, Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
Serum Refrigerated (preferred)  14 days
  Frozen  14 days

CPT Code Information: 86612

CBL
81541
Blastomyces Antibody by Immunodiffusion, Spinal Fluid
Specimen Requirements: Container/Tube: Sterile vial Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
CSF Refrigerated (preferred)  14 days
  Frozen  14 days

CPT Code Information: 86612

BDIAL
83094
Bleeding Diathesis Profile, Limited
Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Patient should not be receiving Coumadin or heparin. If so, please note. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 5 mL in 5 plastic vials each containing 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimens immediately at < or = -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back.
Specimen Minimum Volume: Internal: Two 4.5 mL 3.2% Sodium Citrate External: 4 mL in 4 plastic vials, 1 mL each
Transport Temperature:
Plasma Na Cit  Frozen 14 days
CPT Code Information: 85240-Coagulation factor VIII assay; 85246-von Willebrand factor antigen; 85291-Clot solubility factor XIII; 85366-Soluble fibrin monomer; 85379-D-dimer; 85384-Fibrinogen; 85390-26-Special coagulation interpretation; 85397-von Willebrand factor activity; 85610-PT; 85670-Thrombin time; 85730-APTT; 85210-Factor II (if appropriate); 85220-Factor V (if appropriate); 85230-Factor VII (if appropriate); 85245-Ristocetin cofactor (if appropriate); 85247-von Willebrand factor multimer (if appropriate); 85250-Factor IX (If appropriate); 85260-Factor X (if appropriate); 85270-Factor XI (if appropriate); 85280-Factor XII (if appropriate); 85335-Bethesda units (if appropriate); 85335-Factor II inhibitor screen (if appropriate); 85335-Factor V inhibitor screen (if appropriate); 85335-Factor VII inhibitor screen (if appropriate); 85335-Factor VIII inhibitor screen (if appropriate); 85335-Factor IX inhibitor screen (if appropriate); 85335-Factor X inhibitor screen (if appropriate); 85335-Factor XI inhibitor screen (if appropriate); 85410-Alpha-2 plasmin inhibitor (if appropriate); 85597-Platelet neutralization for lupus inhibitor (if appropriate); 85598-Staclot LA (if appropriate); 85611-PT mix 1:1 (if appropriate); 85613-DRVVT (if appropriate); 85613-DRVVT mix (if appropriate); 85613-DRVVT confirm (if appropriate); 85635-Reptilase time (if appropriate); 85732-APTT mix 1:1 (if appropriate);

BTROP 82374 Blomia tropicalis, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

CPT Code Information: 86003

BUN 81793 Blood Urea Nitrogen (BUN), Serum
Specimen Requirements: Patient Preparation: Fasting Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
- Serum Refrigerated (preferred) 7 days
  - Frozen 365 days

CPT Code Information: 84520

UEBF 81834 Blood Urea Nitrogen, Body Fluid
Specimen Requirements: Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge specimen to remove any cellular material.

Specimen Minimum Volume: 0.25 mL
**Transport Temperature:**
- Body Fluid: Refrigerated (preferred) 7 days
  - Frozen 365 days

**CPT Code Information:** 84520

**BWOR 82840**

**Blood Worm, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**BLOMP 35366**

**Bloom Syndrome, Mutation Analysis, 2281 delATCTGAinsTAGATTC (2281del6/ins7)**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood
Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant
Specimen Volume: 2.6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen
Prenatal Specimens Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid
Container/Tube: Amniotic fluid container
Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi
Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells
Container/Tube: T-25 flask Specimen Volume: 2 Flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 0.5 mL; Amniotic Fluid: 10 mL; Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies Varies

**CPT Code Information:** 81209-BLM (Bloom syndrome, RecQ helicase-like) (eg, Bloom syndrome) gene analysis, 2281 del6ins7 variant; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ; Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); ; Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zyosity testing or maternal cell contamination of fetal cells (if
Blue Mussel, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Blueberry IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

Blueberry, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

BMPR1A Gene, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who
have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology code; ; Hereditary Colon Cancer CGH Array; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, bacterial artificial chromosome or oligo-based comparative genomic hybridization microarray analysis);

**BOB1 70365**

**BOB-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**BAP 82985**

**Bone Alkaline Phosphatase, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 60 days

**CPT Code Information:** 84080

**BHISI 70314**

**Bone Histomorphometry, Consultant Interpretation, Slides Only**

**Specimen Requirements:** Supplies: Bone Histomorphometry Fact Sheet (T579) Specimen Type: Bone Source: Anterior iliac crest Container/Tube: Slides Collection Instructions: A minimum of 1 Goldner Trichrome-stained slide and 1 hematoxylin and eosin-stained slide are required. Additional Information: For more information, see Bone Histomorphometry Facts (T579) in Special Instructions.

**Transport Temperature:**
Bone Histomorphometry, Gross Microscopic Exam

**Specimen Requirements:** Supplies: Metal Free Specimen Vial (T173) Bone Histomorphometry Specimen Preparation (T579) Specimen Type: Bone Preferred: Anterior iliac crest Container/Tube: Metal-free container (T173) Specimen Volume: Entire specimen Collection Instructions: 1. Fix specimen in 70% ethanol. 2. Quantitation of bone turnover requires 2 time-spaced tetracycline labels. 3. The use of metal-free containers is required to avoid aluminum or iron contamination. Additional Information: 1. Consultation with a Mayo Medical Laboratories pathologist or endocrinologist/nephrologist is recommended for first-time users of this service. Written instructions are available upon request. 2. For more information, see Bone Histomorphometry Specimen Preparation (T579) in Special Instructions.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88321; 88346; 88307; 88313;

Bone Marrow Aspirate (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 85097 GC

Bone Marrow Biopsy (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88305

Bone Marrow Clot (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.
Transport Temperature:
Varies
(Ambient (preferred)
Refrigerated

CPT Code Information: 88305

**Bordetella pertussis and Bordetella parapertussis, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Bordetella pertussis or Bordetella parapertussis DNA is unlikely. Submit only 1 of the following specimens: Preferred: Supplies: Transwab Nasopharyngeal With Charcoal System (T286) Nasopharyngeal Swab (Rayon Mini-Tip Swab) (T515) Specimen Type: Nasopharyngeal swab Container/Tube: Rayon swab with an aluminum shaft placed in transport medium such as Stuart's with or without charcoal, or Amies with or without charcoal (Transwab Nasopharyngeal with Charcoal System [T286]) or a green-top nasopharyngeal swab (rayon mini-tip) with Stuart's media (no charcoal) (T515). Additional Information: 1. Swab transport containers without charcoal must contain a pledget saturated with either Stuart's or Amies liquid media. Clear semi-solid/solid media is gel and will be rejected. 2. Other swab or media types may be inhibitory to PCR testing and will be rejected. Acceptable: Specimen Type: Nasopharyngeal (not throat) aspirate/wash or nasal aspirate/wash Container/Tube: Sterile container with a screw top cap (no transport media) Specimen Volume: Entire collection

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days

- Ambient 7 days
- Frozen 7 days

CPT Code Information: 87798 x 2

**Bordetella pertussis Antibody, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 30 days

- Frozen 30 days

CPT Code Information: 86615

**Boron, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a trace metal free royal blue-top, no additive tube(s). (Serum gel tube is not acceptable.) Spin down and send 2
mL serum in an acid washed plastic screw capped vial (MML supply number T619), ship refrigerate in a plastic vial. Note: Label specimen appropriately (serum) Plasma Draw blood in a trace metal free royal blue-top EDTA tube(s). (Plasma gel tube is not acceptable.) Spin down and send 2 mL plasma in an acid washed plastic screw capped vial (MML supply number T619), ship refrigerate in a plastic vial. Note: Label specimen appropriately (plasma)

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen 30 days

**CPT Code Information:** 83018

**BMIYB 64970**

**Borrelia miyamotoi Detection PCR, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

**BMIYC 64969**

**Borrelia miyamotoi Detection PCR, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

**BOT 82715**

**Botrytis cinerea, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
CPT Code Information: 86003

BOV
82135
Bovine Serum Albumin, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
 Serum Refrigerated (preferred) 14 days
 Frozen 90 days

CPT Code Information: 86008

BXMPL
82876
Box Elder/Maple, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
 Serum Refrigerated (preferred) 14 days
 Frozen 90 days

CPT Code Information: 86003

BRACH
70366
Brachyury Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
 TECHONLY Ambient (preferred)
 Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

BBRAF
35893
BRAF Analysis (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.
**BRAFC**

**35372**

**BRAF Mutation Analysis (V600), Melanoma**

**Specimen Requirements:** Pathology report must accompany specimen in order for testing to be performed. Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Container/Tube: Slides Specimen Volume: 1 stained and 5 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 5 unstained, nonbaked slides with 5-micron thick sections of the tumor tissue.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin-and-eosin and 5 unstained, nonbaked slides (5-microns thick sections) of the tumor tissue.

**Transport Temperature:**

- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81210-BRAF (v-raf murine sarcoma viral oncogene homolog B1) (eg, colon cancer), gene analysis, V600E variant

**BRAFT**

**35370**

**BRAF Mutation Analysis (V600E), Tumor**

**Specimen Requirements:** Preferred Specimen Type: Formalin-fixed, paraffin-embedded tissue block Acceptable Specimen Type: Tissue Slides: 1 stained and 10 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained, nonbaked slides with 5-micron thick sections of the tumor tissue.

**Transport Temperature:**

- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81210-BRAF (v-raf murine sarcoma viral oncogene homolog B1), Melanoma FDA approved Cobas assay; ; Slide Review; 88381-Microdissection, manual;

**BRAFV**

**70367**

**BRAF V600E Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

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**Brazil Nut, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred)
- Frozen 14 days
- Refrigerated 90 days

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**BRCA1/BRCA2 Ashkenazi Jewish 3-Site Mutation Panel**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81212

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**BRCA1/BRCA2 Genes, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of
blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this assay; see Special Instructions. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 81162

### C2729

**Breast Carcinoma-Associated Antigen (CA 27.29), Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection and aliquot sent. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Frozen (preferred) 90 days
- Refrigerated 7 days
- Ambient 4 days

**CPT Code Information:** 86300

### FNEXT

**BreastNext: Analyses of 17 Genes Associated With Hereditary Breast Cancer**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (purple top) Acceptable: Yellow top (citric acetate) or grey top (potassium oxalate/sodium fluoride) tube Specimen volume: 10 mL Collection instructions: Draw blood in EDTA (purple top) tube(s) and send 10 mL of whole blood refrigerate. Complete Ambry Cancer test requisition form NOTE: For transfusion patients, wait at least 2 weeks after a packed cell or platelet transfusion and at least 4 weeks after a whole blood transfusion prior to blood draw.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
- Ambient 72 hours

**CPT Code Information:** 81211; 81213; 81228; 81321; 81323; 81408;

### BRG1

**BRG1 (SMARCA4) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)

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Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**BRBPS 65058 Broad Range Bacterial PCR and Sequencing**

**Specimen Requirements:** Fresh tissue is preferred over formalin-fixed, paraffin-embedded tissue. Submit only 1 of the following specimens: Specimen Type: Fresh tissue or biopsy Sources: Normally sterile tissue such as bone, lymph node, joint, heart valve, brain, viscera, organ, lung Container/Tube: Sterile container Specimen Volume: Entire collection or 5 mm(3) Collection Instructions: 1. Collect fresh tissue specimen. 2. Submit tissue only, do not add fluid to tissue 3. Freeze specimen. Specimen Stability Information: Frozen <14 days (preferred)/Refrigerated <14 days Supplies: Tissue Block Container (T553) Specimen Type: Paraffin-embedded tissue block Sources: Normally sterile or deep tissues such as bone, lymph node, joint, heart valve, brain, viscera, organ, lung Container/Tube: Sterile container for cut sections or Tissue Block Container (T553) Collection Instructions: Submit formalin-fixed, paraffin-embedded tissue block to be cut and returned. Alternately, perform cuts and place two to five 10-micron sections rolled or scrolled in a sterile container for submission. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Fluid Sources: Normally sterile body fluids such as cerebrospinal, vitreous humor, pleural, abdominal, peritoneal, ascites, pericardial, pelvic Container/Tube: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: 1. Collect fresh fluid specimen. 2. Freeze specimen. Specimen Stability Information: Frozen <14 days (preferred)/Refrigerated <14 days Specimen Type: Synovial fluid Container/Tube: Preferred: Red clot tube (no anticoagulant) or sterile container Acceptable: Lavender top (EDTA), pink top (EDTA), royal blue top (EDTA), or sterile vial containing EDTA-derived aliquot Specimen Volume: 1 mL Collection Instructions: Send specimen in original tube (preferred). Specimen Stability Information: Frozen <14 days (preferred)/Refrigerated <14 days

**Specimen Minimum Volume:** Spinal Fluid, Synovial Fluid, or Vitreous Humor Fluid: 0.5 mL Tissue: 5 mm(3) or two 10-micron sections

**Transport Temperature:**
Varies

**CPT Code Information:** 87801-Broad Range Bacterial PCR and Sequencing; 87153-Bacterial Ident by Sequencing (if appropriate); 87798-Identification by PCR (if appropriate);

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**FBRCG 57642 Broccoli IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days

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Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**BROC 82817**

**Broccoli, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86001

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**BROM 82919**

**Brome Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**BRUGM 89476**

**Brucella Antibody Screen, IgG and IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86622 x 2-Brucella antibody, IgG and IgM; 86622-Brucella total antibody, agglutination (if appropriate);

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**BRUC 8077**

**Brucella Culture**
Specimen Requirements: Submit only 1 of the following specimens: Preferred: Specimen Type: Bone marrow Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Stability Information: Ambient <24 hours Alternate: Specimen Type: Abscess, respiratory specimen, spinal fluid, sterile body fluid, or tissue Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Stability Information: Refrigerated <24 hours

Transport Temperature:

Varies

CPT Code Information: 87081-Brucella culture; 87077-Identification by MALDI-TOF mass spec (if appropriate); 87153-Aerobe identification by sequencing (if appropriate); 87176-Tissue processing (if appropriate);

**BRUCB**

Brucella Culture, Blood

Specimen Requirements: Container/Tube: Blood Isolator tube Specimen Volume: Entire collection

Transport Temperature:

Whole Blood Culture Ambient 24 hours

CPT Code Information: 87081-Brucella Culture, Blood; 87153-Aerobic Ident by Sequencing (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate);

**BRUTA**

Brucella Total Antibody Confirmation, Agglutination, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.25 mL

Transport Temperature:

Serum Refrigerated (preferred) 14 days

Frozen 14 days

CPT Code Information: 86622

**BRGGP**

Brugada Syndrome Multi-Gene Panel, Blood

Specimen Requirements: Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:

Whole Blood EDTA Ambient (preferred) Refrigerated

CPT Code Information: 81479; 81406; 81404; 81407;
**BSPR 82480**  
**Brussel Sprouts, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**BTKFP 89742**  
**Bruton Tyrosine Kinase (BTK) Genotype and Protein Analysis, Full Gene Sequence and Flow Cytometry**

**Specimen Requirements:** Two separate EDTA specimens and the patient information sheet are required. Specimen Type: Blood for BTKSP / Bruton Tyrosine Kinase (BTK) Genotype, Full Gene Sequence Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Send specimen in original tube. 2. Label as BTKSP. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood for BTK / Bruton Tyrosine Kinase (Btk), Protein Expression, Flow Cytometry, Blood Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: 1. Send specimen in original tube. Do not aliquot. 2. Ship at ambient temperature only. 3. Label as BTK. Specimen Stability Information: Ambient 72 hours Additional Information: For flow cytometry serial monitoring, we recommend that specimen draws be performed at the same time of day.

**Specimen Minimum Volume:** BTKSP: 0.35 mL BTK: 2 mL

**Transport Temperature:** Whole Blood EDTA Varies 72 hours

**CPT Code Information:** 81406-Bruton Tyrosine Kinase (BTK) Genotype, Full Gene Sequence; 88184-Bruton Tyrosine Kinase (Btk), Protein Expression, Flow Cytometry, Blood;

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**BTKMP 89740**  
**Bruton Tyrosine Kinase (BTK) Genotype and Protein Analysis, Known Mutation Sequencing and Flow Cytometry**

**Specimen Requirements:** Two separate EDTA specimens and the patient information sheet are required. Specimen Type: Blood for BTKKM / Bruton Tyrosine Kinase (BTK) Genotype, Known Mutation Sequence Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Send specimen in original tube. 2. Label as BTKKM. Specimen Stability Information: Refrigerated (preferred) 14 days/Ambient 4 days Specimen Type: Blood for BTK / Bruton Tyrosine Kinase (Btk), Protein Expression, Flow Cytometry, Blood Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: 1. Send specimen in original tube. Do not aliquot. 2. Ship at ambient temperature only. 3. Label as BTK. Specimen Stability Information: Ambient 72 hours Additional Information: For flow cytometry serial monitoring, we recommend that specimen draws be performed at the same time of day.

**Specimen Minimum Volume:** BTKKM: 0.35 mL BTK: 2 mL
Transport Temperature:
Whole Blood EDTA Varies 72 hours

CPT Code Information: Bruton Tyrosine Kinase (BTK) Genotype, Known Mutation Sequence; 81403-Known familial variant; Bruton Tyrosine Kinase (Btk), Protein Expression, Flow Cytometry, Blood; 88184;

**BTKS**

Bruton Tyrosine Kinase (BTK) Genotype, Full Gene Sequence, Blood

Specimen Requirements: Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

Specimen Minimum Volume: 0.35 mL

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred)
Ambient

CPT Code Information: 81406

**BTKK**

Bruton Tyrosine Kinase (BTK) Genotype, Known Mutation, Blood

Specimen Requirements: Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

Specimen Minimum Volume: 0.35 mL

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred)
Ambient

CPT Code Information: 81403

**BTK**

Bruton Tyrosine Kinase (Btk), Protein Expression, Flow Cytometry, Blood

Specimen Requirements: For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Whole Blood EDTA Ambient 72 hours
CPT Code Information: 88184

**BUCW 82727**

**Buckwheat, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**BDRP 82791**

**Budgerigar Droppings, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**BFTH 82779**

**Budgerigar Feathers, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**BP 88874**

**Bullous Pemphigoid, BP180 and BP230, IgG Antibodies, Serum**
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red  Refrigerated (preferred)  14 days  
Frozen  30 days  
Ambient  36 hours

**CPT Code Information:** 83516 x 2

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**FMARC 75307**

**Bupivacaine (Marcaine)**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red  Frozen (preferred)  180 days  
Ambient  72 hours  
Refrigerated  72 hours

**CPT Code Information:** 80375

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**BUPMX 65215**

**Buprenorphine and Norbuprenorphine, Chain of Custody, Urine**

**Specimen Requirements:** Supplies: Chain of Custody Kit (T282) Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the provided container, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine  Refrigerated (preferred)  14 days  
Ambient  14 days  
Frozen  14 days

**CPT Code Information:** 80348; G0480 (if appropriate);

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**BUPM 66200**

**Buprenorphine and Norbuprenorphine, Random, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Urine Container, 60 mL (T313) Collection Container/Tube: Plastic urine container Submission Container/Tube: Aliquot tube, 5 mL (T465) Specimen Volume: 5 mL Collection Instructions: 1. No preservative. 2. If submitting for multiple tests on 1 order, submit 5 mL per test ordered in a single plastic urine container (T313).
**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 80348; G0480 (if appropriate); BUPR 63222

**Buprenorphine Screen with Reflex, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Plastic urine container Submission Container/Tube: Aliquot Tube, 5 mL (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 5 mL in 1 plastic bottle. 3. No preservative. 4. If submitting for multiple urine drug confirmation tests on 1 order, submit 5 mL per test ordered in a single plastic, 60 mL urine container (T313). Additional Information: If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80307; G0479 (if appropriate); BUPS 63119

**Buprenorphine Screen, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Plastic urine container Submission Container/Tube: Aliquot Tube, 5 mL (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 5 mL in 1 plastic bottle. 3. No preservative. 4. If submitting for multiple urine drug confirmation tests on 1 order, submit 5 mL per test ordered in a single plastic, 60 mL urine container (T313). Additional Information: If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80307; 75260

**FBUPS 75260**

**Bupropion and Metabolite, Serum/Plasma**

**Specimen Requirements:** Specimen Type: Serum or Plasma Container/Tube: Preferred: Red top
or green top Acceptable: purple EDTA, Royal Blue EDTA, gray-top sodium fluoride, gray-top potassium oxalate Specimen volume: 1 mL. Submit only 1 of the following specimens: Serum: Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum frozen in a plastic vial. Plasma: Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:** Varies Frozen 30 days

**CPT Code Information:** 80338

**FBUS** 91115  
**Buspirone (Buspar)**  
**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL  
**Transport Temperature:** Varies Refrigerated (preferred) 14 days  
Frozen 180 days  
Ambient 72 hours

**CPT Code Information:** 80375

**BUAUC** 83188  
**Busulfan, Intravenous Dose, Area Under the Curve (AUC), Plasma**  
**Specimen Requirements:** Four plasma specimens with different draw times (keep all specimens under 1 order) and a completed Busulfan Information: Mail-In Specimen Instructions (T559) are required. Collection Container/Tube: Green top (sodium heparin) Submission Container/Tube: Plastic vials Specimen Volume: 1 mL Collection Instructions: 1. The first specimen should be drawn immediately after termination of intravenous infusion of 0.8 mg/kg busulfan. 2. Additional specimens should also be drawn at 1 hour, 2 hours, and 4 hours after termination of infusion. 3. Label each specimen appropriately (exact time of draw). 4. Busulfan degrades quickly at room temperature. Each specimen should be kept in wet ice slurry or refrigerated at 4°C. Specimen should be centrifuged as soon as possible after collection. Separate the plasma from each specimen and transfer it to individual 5-mL plastic tubes. Immediately freeze these plasma specimens at -20°C.

**Specimen Minimum Volume:** 0.25 mL  
**Transport Temperature:** Plasma Na Heparin Frozen (preferred) 28 days Refrigerated 72 hours

**CPT Code Information:** 80299 x 4
**Butalbital, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.5 mL Collection Instructions: Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 80345; G0480 (if appropriate);

**C-Peptide, Serum**

**Specimen Requirements:** Patient Preparation: 1. Patient should fast for 8 hours. 2. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 7 days

**CPT Code Information:** 84681

**C-Reactive Protein (CRP) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**C-Reactive Protein (CRP), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tube should be centrifuged within 2 hours of collection. 2. Red-top tube should be centrifuged and aliquoted within 2 hours of collection.
**HSCRP**

**C-Reactive Protein, High Sensitivity, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 86141

**C1ES**

**C1 Esterase (C1ES) Inhibitor Antigen, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Fasting preferred but not required.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 14 days
- Ambient 72 hours
- Refrigerated 72 hours

**CPT Code Information:** 83883

**FC1EQ**

**C1 Esterase Inhibitor, Functional Assay, Serum**

**Specimen Requirements:** Patient Preparation: Patient should be fasting. Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Freeze specimen within 30 minutes.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Red Frozen 6 days
CPT Code Information: 83520

FCQBA 57301

**C1Q Binding Assay**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). (Serum gel tube is acceptable.) Separate from cells within 2 hours of collection. Send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Frozen 14 days

CPT Code Information: 86322

C1QFX 83374

**C1q Complement, Functional, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen. Additional Information: Fasting preferred.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Frozen 14 days

CPT Code Information: 86161

C2AG 84141

**C2 Complement, Antigen, Serum**

**Specimen Requirements:** Only orderable as a reflex. For more information see C2 / C2 Complement, Functional, with Reflex, Serum. Patient Preparation: Fasting preferred but not required Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Red top Submission Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Frozen (preferred) 60 days
Ambient 7 days
Refrigerated 7 days

CPT Code Information: 86160

C2FXN 32137

**C2 Complement, Functional, Serum**

**Specimen Requirements:** Patient Preparation: Fasting preferred but not required Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Red top Submission Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the
specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red  Frozen 21 days

**CPT Code Information:** 86161

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### C2 Complement, Functional, with Reflex, Serum

**C2**

**81835**

**Specimen Requirements:** Patient Preparation: Fasting preferred but not required Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Red top Submission Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red  Frozen 21 days

**CPT Code Information:** 86161; 86160 x3 (if appropriate);

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### C3 Complement, Functional, Serum

**C3FX**

**81090**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen.

Additional Information: Fasting preferred.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red  Frozen 14 days

**CPT Code Information:** 86161

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### C3a Level

**FC3AL**

**90463**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s), plasma gel tube(s) is not acceptable. Mix well, centrifuge at ambient temperature within one half hour of draw, and freeze immediately. Send 1 mL of EDTA plasma frozen in plastic vial. Complete and submit with specimen: 1. National Jewish Complement request form

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma EDTA  Frozen 365 days

**CPT Code Information:** 86160
**C4 Acylcarnitine, Quantitative, Urine**

**Specimen Requirements:** Patient Preparation: If clinically feasible, discontinue L-carnitine supplementation at least 72 hours before specimen collection. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10 mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. Freeze specimen immediately.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Frozen (preferred) 7 days
- Refrigerated 24 hours

**CPT Code Information:** 82017

**C4 Complement, Functional, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen. Additional Information: Fasting preferred.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red Frozen 14 days

**CPT Code Information:** 86161

**C4ades Arg Level**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s), plasma gel tube(s) is not acceptable. Mix well, centrifuge at ambient temperature within one half hour of draw (preferably immediately after venipuncture), and freeze immediately on dry ice or at -70 C. Send 1 mL of EDTA plasma frozen in plastic vial. Complete and submit with specimen: 1. National Jewish Complement request form

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma EDTA Frozen 365 days

**CPT Code Information:** 86160

**C5 Complement, Antigen, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Fasting 2. Spin down and separate serum from clot.

**Specimen Minimum Volume:** 0.5 mL
Transport Temperature:
Serum Frozen (preferred) 60 days
    Ambient 7 days
    Refrigerated 7 days

CPT Code Information: 86160

C5 Complement, Functional, Serum

**Specimen Requirements:**
Patient Preparation: Fasting preferred
Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions:
1. Immediately after drawing the specimen, place the tube on wet ice.
2. Spin down and separate serum from clot.
3. Immediately freeze specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Frozen 14 days

CPT Code Information: 86161

C5-DC Acylcarnitine, Quantitative, Urine

**Specimen Requirements:**
Patient Preparation: If clinically feasible, discontinue L-carnitine supplementation at least 72 hours before specimen collection.
Supplies: Urine Tubes, 10 mL (T068)
Collection Container/Tube: Clean, plastic urine collection container
Submission Container/Tube: Plastic, 10-mL urine tube (T068)
Specimen Volume: 5 mL
Collection Instructions:
1. Collect a random urine specimen.
2. Freeze specimen immediately.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Frozen (preferred) 7 days
    Refrigerated 7 days

CPT Code Information: 82017

C5-OH Acylcarnitine, Quantitative, Urine

**Specimen Requirements:**
Patient Preparation: If clinically feasible, discontinue L-carnitine supplementation at least 72 hours before specimen collection.
Supplies: Urine Tubes, 10 mL (T068)
Collection Container/Tube: Clean, plastic urine collection container
Submission Container/Tube: Plastic, 10-mL urine tube (T068)
Specimen Volume: 5 mL
Collection Instructions:
1. Collect a random urine specimen.
2. Freeze specimen immediately.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Frozen (preferred) 7 days
    Refrigerated 7 days

CPT Code Information: 82017
CPT Code Information: 82017

C6FX 83393
C6 Complement, Functional, Serum
Specimen Requirements: Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen. Additional Information: Fasting preferred.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Red Frozen 14 days

C7FX 81064
C7 Complement, Functional, Serum
Specimen Requirements: Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen. Additional Information: Fasting preferred.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Red Frozen 14 days

C8FX 81065
C8 Complement, Functional, Serum
Specimen Requirements: Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen. Additional Information: Fasting preferred.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Red Frozen 14 days

C9FX 81066
C9 Complement, Functional, Serum
Specimen Requirements: Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen. Additional Information: Fasting preferred.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Red Frozen 14 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Transport Temperature:
Serum Red Frozen 14 days

CPT Code Information: 86161

**C9orf72 Hexanucleotide Repeat, Molecular Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: 81479; ;

**Cabbages IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

**Cabbage, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days
CPT Code Information: 86003

COCOA 60112

Cacao/Cocoa, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

CDOMB 89539

Cadmium for Occupational Monitoring, Blood

Specimen Requirements: Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: Full tube Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368381.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Whole blood Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 82300

CDOE 48554

Cadmium Occupational Exposure, Random, Urine

Specimen Requirements: Only orderable as part of profile. See CDUO / Cadmium Occupational Exposure, Random, Urine or HMSOR / Heavy Metals Occupational Exposure with Reflex, Urine.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days
Cadmium Occupational Exposure, Random, Urine

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect urine a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82300 ; 82570 ;

Cadmium, 24 Hour, Urine

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82300

Cadmium, Blood

**Specimen Requirements:** Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: Full tube Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368381.

**Specimen Minimum Volume:** 0.3 mL
Transport Temperature:
Whole blood Refrigerated (preferred)  28 days
                   Ambient                  28 days
                   Frozen                  28 days

CPT Code Information: 82300

CDRCR 48543  Cadmium/Creatinine Ratio, Random, Urine
Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect urine a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Specimen Minimum Volume: 1.5 mL

Transport Temperature:
Urine Refrigerated (preferred)  28 days
                   Ambient                  28 days
                   Frozen                  28 days

CPT Code Information: 82300 ; 82570 ;

CDRC 48544  Cadmium/Creatinine Ratio, Urine
Specimen Requirements: Only orderable as part of profile. See CDRCR / Cadmium/Creatinine Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with Reflex, Urine.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Urine Refrigerated (preferred)  28 days
                   Ambient                  28 days
                   Frozen                  28 days

CAFN 37034  Caffeine, Serum
Specimen Requirements: Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Serum Refrigerated (preferred)  72 hours
**CPT Code Information:** 80155

**CALCI**  
70368  
**Calcitonin (CALCI) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CATLN**  
61527  
**Calcitonin, Fine-Needle Aspiration Biopsy (FNAB)-Needle Wash, Lymph Node**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 1 to 1.5mL Collection Instructions: 1. Needle wash specimens for analysis should be collected in conjunction with cytology specimens. 2. Have saline available prior to start of procedure. Saline is the only acceptable solution for needle washings. 3. After each fine-needle aspiration biopsy (FNAB) has been collected and the material in the needle has been expelled onto a slide for cytologic analysis, attach the used FNAB needle to an empty syringe. 4. Withdraw between 0.10 mL and 0.25 mL of saline up through the needle until the saline starts to fill the hub of the needle or end of the syringe. 5. Expel this fluid back through the needle into a separate tube. This is the needle washing used for analysis. 6. Repeat steps 2 through 4 for each needle pass of the same biopsied site and empty into the same tube, accumulating a total of 0.5 mL to 1.5 mL of fluid to send to the laboratory. (If more than 1 site is biopsied, see Additional Information) 7. Inspect specimen for visible blood or tissue contamination: -a. If bloody, centrifuge specimen and transfer supernatant to a new plastic aliquot tube (5-mL standard tube) to send to laboratory. The supernatant, not the cellular material, is used for analysis. -b. If specimen is clear, centrifugation is not necessary. 8. Refrigerate within 1 to 2 hours of collection and freeze within 2 to 4 hours of collection. Additional Information: 1. If more than 1 site is biopsied, each washing material should be submitted on a separate tube and under a different order number. 2. A minimum of 0.5 mL is required for testing; however, the total collection volume should not exceed 1.5 mL. Sample volumes outside these parameters may be rejected. 3. Do not send saline control. This test has been validated to rule-out saline matrix effect.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Fine Needle Wash Frozen (preferred) 7 days  
Refrigerated 4 hours

**CPT Code Information:** 82308
Calcitonin, Serum

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.8 mL Collection Instructions: 1. After draw immediately place specimen on ice. 2. Refrigerate specimen during centrifugation and immediately transfer serum to a plastic vial.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Frozen (preferred) 90 days
  - Refrigerated 24 hours
  - Ambient 4 hours

**CPT Code Information:** 82308

Calcium, 24 Hour, Urine

**Specimen Requirements:** Collection Container/Tube: 24-hour graduated urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
  - Frozen 14 days
  - Ambient 72 hours

**CPT Code Information:** 82340

Calcium, Ionized, Serum

**Specimen Requirements:** Container/Tube: Serum gel or serum gel microtainer Specimen Volume: Full tube Collection Instructions: 1. Allow blood to clot for 30 minutes. 2. Serum gel tube/microtainer must be centrifuged within 1 hour of draw time. Centrifuge with stopper in place for 7 minutes at 3,000 rpm to ensure that the gel barrier separates the serum and cells. 3. Keep specimen anaerobic do not aliquot.

**Specimen Minimum Volume:** 1.75 mL in a 3.5 mL (50% full) in serum gel tube or 1 full serum gel microtainer

**Transport Temperature:**
- Serum SST Refrigerated 7 days
CPT Code Information: 82330

CACR1
63450

Calcium, Random, Urine

Specimen Requirements: Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours

CPT Code Information: 82310

CACR2
36882

Calcium, Random, Urine

Specimen Requirements: Only orderable as part of a profile. For more information see SSATR Supersaturation Profile, Pediatric, Random, Urine.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 82310

CA
601514

Calcium, Total, Serum

Specimen Requirements: Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. If drawing for more than calcium, total, send first tube drawn. 2. Serum gel tubes should be centrifuged within 2 hours of collection. 3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Serum Frozen (preferred) 240 days
Refrigerated 21 days

CPT Code Information: 82310

CALD
70369

Caldesmon Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained
positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CAVPC 83900**  
**California Virus (La Crosse) Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
CSF Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86651 x 2

**CAVP 83153**  
**California Virus (La Crosse) IgG and IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86651 x 2

**CALPN 70370**  
**Calponin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
Calprotectin, Feces

**Specimen Requirements:** Supplies: Stool container, Small (Random), 4 oz Random (T288) Submission Container/Tube: Stool container (T288) Specimen Volume: 5 g Collection Instructions: 1. Collect a fresh random stool specimen, no preservatives. 2. Specimens may be stored refrigerate for up to 72 hours following collection. Specimens must be frozen within 72 hours of collection and remain frozen throughout the shipping process. 3. Separate specimens must be submitted when multiple tests are ordered. Specimen must be split prior to freezing for transport. Testing cannot be added on to a previously collected specimen. 4. Specimen cannot be collected from a diaper.

**Specimen Minimum Volume:** 1 gm

**Transport Temperature:**
Fecal Frozen 7 days

**CPT Code Information:** 83993

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CALR Mutation Analysis, Myeloproliferative Neoplasm (MPN)

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood Container/Tube: EDTA (lavender top) or ACD-B (yellow top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Bone marrow Container/Tube: EDTA (lavender top) or ACD-B (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and include indication of volume and concentration of the DNA. Specimen Stability: Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies

**CPT Code Information:** 81219-CALR (calreticulin) (eg, myeloproliferative disorders), gene analysis, common variants in exon 9

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CALR Mutation Analysis, Myeloproliferative Neoplasm (MPN), Reflex

**Specimen Requirements:** Only orderable as a reflex. For more information see MPNR / Myeloproliferative Neoplasm (MPN), JAK2 V617F with reflex to CALR and MPL.

**Specimen Minimum Volume:** Blood and Bone marrow: 0.05 mL

**Transport Temperature:**
Varies

**CPT Code Information:** 81219-CALR (calreticulin) (eg, myeloproliferative disorders), gene analysis, common variants in exon 9
**CALRC 71486**

**Calreticulin ex9mut Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CALNN 70371**

**Calretinin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CFTH 82778**

**Canary Feathers, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

**CPT Code Information:** 86003

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**CAGR 82829**

**Canary Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**Canavan Disease, Mutation Analysis, ASPA**

**Specimen Requirements:**
- **Patient Preparation:** A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens:
  - **Specimen Type:** Whole blood
  - **Container/Tube:** Preferred: Yellow top (ACD) or lavender top (EDTA)
  - **Acceptable:** Any anticoagulant

**Specimen Stability Information:**
- Ambient (preferred)/Refrigerated/Frozen

**Prenatal Specimens**
- **Specimen Type:** Amniotic fluid
- **Container/Tube:** Amniotic fluid container
- **Specimen Volume:** 20 mL
- **Specimen Stability Information:** Refrigerated (preferred)/Ambient

**Chorionic villi**
- **Specimen Type:** Chorionic villi
- **Container/Tube:** 15-mL tube containing 15 mL of transport media
- **Specimen Volume:** 20 mg
- **Specimen Stability Information:** Refrigerated Acceptable

**Confluent cultured cells**
- **Specimen Type:** Confluent cultured cells
- **Container/Tube:** T-25 flask
- **Specimen Volume:** 2 Flasks

**Specimen Minimum Volume:**
- Blood: 0.5 mL; Amniotic Fluid: 10 mL; Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies

**CPT Code Information:**
- 81200-ASPA aspartoacylase (eg, Cnavan disease) gene analysis, common variants (eg, E285A, Y231X); Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

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**Cancer Antigen 125 (CA 125), Serum**

**Specimen Requirements:**
- **Patient Preparation:** For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.
- **Container/Tube:** Preferred: Serum gel
- **Specimen Volume:** 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 5 days
- Frozen 180 days

**CPT Code Information:** 86304
**CA153**

**Cancer Antigen 15-3 (CA 15-3), Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.45 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 86300

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**FCNEX**

**CancerNext**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (purple top) Acceptable: Yellow top (citric acetate) or grey top (potassium oxalate/sodium fluoride) tube Specimen volume: 10 mL Collection instructions: Draw blood in EDTA (purple top) tube(s) and send 10 mL of whole blood refrigerate. Complete Ambry Cancer test requisition form. NOTE: For transfusion patients, wait at least 2 weeks after a packed cell or platelet transfusion and at least 4 weeks after a whole blood transfusion prior to blood draw.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
- Ambient 72 hours

**CPT Code Information:** 81201; 81211; 81213; 81292; 81294; 81295; 81297; 81298; 81300; 81317; 81319; 81321;

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**CDAB**

**Candida albicans (Monilia), IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FMARI**

**Cannabinoid Analysis, Whole Blood**

**Specimen Requirements:** Draw blood in a purple-top (EDTA), green-top (sodium-heparin) or
grey-top (NaF/oxalate) tube(s). Send 7 mL of whole blood refrigerated in a plastic vial.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole blood Refrigerated (preferred) 14 days

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**CPT Code Information:** 80307; 80349- if applicable;

**Caraway, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

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**CPT Code Information:** 86003

**Carbamazepine Hypersensitivity Pharmacogenomics, Blood**

**Specimen Requirements:** Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
Whole Blood EDTA Ambient (preferred)

Refrigerated

**CPT Code Information:** 81381 x 2

**Carbamazepine Hypersensitivity Pharmacogenomics, Saliva**

**Specimen Requirements:** Multiple saliva genotype tests can be performed on a single specimen after a single extraction. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Supplies: DNA Saliva Collection Kit (T651) Container/Tube: Oragene DNA Self-Collection Kit (T651: fees apply) Specimen Volume: Full tube Collection Instructions: 1. Fill tube to line. 2. Send specimen in original container per kit instructions.

**Specimen Minimum Volume:** 1 mL
Transport Temperature:
Saliva Ambient

CPT Code Information: 81381 x 2

**CARTF**

**Carbamazepine Profile, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: 1. Draw blood 12 hours (trough value) after last dose. 2. Tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
  - Frozen 28 days
  - Ambient 48 hours

**CPT Code Information:** 80156-Carbamazepine, total; 80157-Carbamazepine, free; 80299-Carbamazepine-10,11-Epoxide;

**CARFT**

**Carbamazepine, Free and Total, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: Tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
  - Frozen 28 days
  - Ambient 48 hours

**CPT Code Information:** 80156-Carbamazepine, Total, S; 80157-Carbamazepine, Free, S;

**CARF**

**Carbamazepine, Free, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: Tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
  - Frozen 28 days
  - Ambient 48 hours

**CPT Code Information:** 80157
Carbamazepine, Total, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.5 mL Collection Instructions: Tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 48 hours

**CPT Code Information:** 80156

Carbamazepine-10,11-Epoxide, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: Draw blood 12 hours (trough value) after last dose.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 48 hours

**CPT Code Information:** 80156-Carbamazepine, Tot, S; 80299-Carbamazepine-10,11-Epoxide;

Carbapenemase Detection-Carba NP Test

**Specimen Requirements:** Specimen Type: Organism Supplies: Infectious Container, Large (T146) Container/Tube: Slant Specimen Volume: Isolate Collection Instructions: Submit Enterobacteriaceae or Pseudomonas aeruginosa isolate in pure culture (ie, not mixed with other organisms), actively growing.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 87185

Carbapenemase Detection-Carba NP Test (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
Carbohydrate Antigen 19-9 (CA 19-9), Pancreatic Cyst Fluid

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL (Samples <0.5 mL may be rejected)

**Transport Temperature:**
- Pancreatic Cyst Fluid  Frozen (preferred)  30 days
- Refrigerated  7 days

CPT Code Information: 87185

Carbohydrate Antigen 19-9 (CA 19-9), Peritoneal Fluid

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Peritoneal Frozen (preferred)  90 days
- Ambient  7 days
- Refrigerated  7 days

CPT Code Information: 86301

Carbohydrate Antigen 19-9 (CA 19-9), Pleural Fluid

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL (Samples <0.5 mL may be rejected)

**Transport Temperature:**
- Pleural Fluid Frozen (preferred)  90 days
- Refrigerated  14 days
- Ambient  7 days

CPT Code Information: 86301
Carbohydrate Antigen 19-9 (CA 19-9), Serum

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 86301

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Carbohydrate Deficient Transferrin for Congenital Disorders of Glycosylation, Serum

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.1 mL

**Specimen Minimum Volume:** 0.05 mL

**Transport Temperature:**
- Serum Frozen (preferred) 45 days
- Refrigerated 28 days
- Ambient 7 days

**CPT Code Information:** 82373

---

Carbohydrate Deficient Transferrin, Adult, Serum

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.1 mL

**Specimen Minimum Volume:** 0.05 mL

**Transport Temperature:**
- Serum Frozen (preferred) 45 days
- Refrigerated 28 days
- Ambient 7 days

**CPT Code Information:** 82373

---

Carbohydrate, Urine

**CPT Code Information:** 82373
Specimen Requirements: Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL. Collection Instructions: Collect an early-morning (preferred) random urine specimen.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Frozen (preferred) 21 days
Refrigerated 21 days

CPT Code Information: 84377-Carbohydrate; 82760-Galactose (if appropriate); 82945-Glucose (if appropriate);

Carbon Monoxide, Blood

Specimen Requirements: Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL. Collection Instructions: Avoid exposure of specimen to atmosphere.

Specimen Minimum Volume: 0.1 mL

Transport Temperature:
Whole Blood EDTA Ambient (preferred) 14 days
Frozen 14 days
Refrigerated 14 days

CPT Code Information: 82375

Carboxy-Tetrahydrocannabinol (THC) Confirmation, Chain of Custody, Urine

Specimen Requirements: Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL. Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 20 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 5 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours

CPT Code Information: 80349; G0480 (if appropriate);

Carboxy-Tetrahydrocannabinol (THC) Confirmation, Urine

Specimen Requirements: Collection Container Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL. Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For
situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order THCX / Carboxy-THC Confirmation, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 6. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days

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**CPT Code Information:** 80349; G0480 (if appropriate);

**CEAPC 89509**

**Carcinoembryonic Antigen (CEA), Pancreatic Cyst Fluid**

**Specimen Requirements:** Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Pancreatic Cyst Fluid Frozen (preferred) 90 days

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**CPT Code Information:** 82378

**CEAPT 61528**

**Carcinoembryonic Antigen (CEA), Peritoneal Fluid**

**Specimen Requirements:** Container/Tube: Plain, plastic, screw top tube Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL (Samples <0.5 mL may be rejected)

**Transport Temperature:**
Peritoneal Frozen (preferred) 90 days

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**CPT Code Information:** 82378

**PFCEA 83742**

**Carcinoembryonic Antigen (CEA), Pleural Fluid**

**Specimen Requirements:** Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL (Specimens <0.5 mL may be rejected)

**Transport Temperature:**
Pleural Fluid Frozen (preferred) 90 days

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CPT Code Information: 82378

**CEA**

Carcinoembryonic Antigen (CEA), Serum

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.6 mL
- Collection Instructions:
  1. Serum gel tubes should be centrifuged within 2 hours of collection.
  2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

CPT Code Information: 82378

**CEASF**

Carcinoembryonic Antigen (CEA), Spinal Fluid

**Specimen Requirements:**
- Collection Container/Tube: Sterile vial
- Submission Container/Tube: 13 x 75-mm tube
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 82378

**MCEA**

Carcinoembryonic Antigen, monoclonal (mCEA) Immunostain, Technical Component Only

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693)
- Specimen Type: Tissue
- Container/Tube: Immunostain Technical Only Envelope (T693)
- Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick.
- Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**PCEAI**

Carcinoembryonic Antigen, polyclonal (pCEA) Immunostain, Technical Component Only

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Cardamom, IgE

Cardamom, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Cardiac Fibrinogen, Plasma

Cardiac Fibrinogen, Plasma

Specimen Requirements: Patient Preparation: Fasting (12 hours preferred but not required) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and separate plasma from cells within 4 hours of draw.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Plasma EDTA Refrigerated (preferred) 7 days
Frozen 30 days
Ambient 72 hours

CPT Code Information: 85385

Cardiovascular Risk Marker Panel, Serum

Cardiovascular Risk Marker Panel, Serum

Specimen Requirements: Patient Preparation: 1. Patients must be fasting for at least 12 to 14 hours. 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. Container/Tube: Serum gel Specimen Volume: 2.5 mL

Specimen Minimum Volume: 1.25 mL

Transport Temperature:
CPT Code Information: 80061-Lipid panel (includes: HDL [CPT Code 83718], total cholesterol [CPT Code 82465], and triglycerides [CPT Code 84478]); 83695-Lipoprotein (a); 86141-C-reactive protein; high sensitivity (hsCRP);

CPT Code Information: 86003

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Acceptable: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin, T115). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: Blood: 1 mL Blood Spots: 5 punches-3 mm diameter
Transport Temperature:
Varies Varies

CPT Code Information: 81404-CPT2 (carnitine palmitoyltransferase 2) (eg, carnitine palmitoyltransferase II deficiency), full gene sequence; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

CARN 8802
Carnitine, Plasma
Specimen Requirements: Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: EDTA, lithium heparin Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Specimen Minimum Volume: 0.2 mL
Transport Temperature:
Plasma Frozen (preferred) 60 days Refrigerated 21 days Ambient 7 days

CPT Code Information: 82379

CARN 60449
Carnitine, Serum
Specimen Requirements: Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Specimen Minimum Volume: 0.2 mL
Transport Temperature:
Serum Frozen (preferred) 60 days Refrigerated 21 days Ambient 7 days

CPT Code Information: 82379

CARNU 81123
Carnitine, Urine
Specimen Requirements: Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 1.5 mL Collection Instructions: Collect a random urine specimen.
Specimen Minimum Volume: 1 mL
Transport Temperature:
Urine Frozen (preferred) 365 days Refrigerated 72 hours

CPT Code Information: 82379
Carnitine-Acylcarnitine Translocase Deficiency, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions:

1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Additional Information: Ambient 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches, 3-mm diameter

**Transport Temperature:** Varies Varies

**CPT Code Information:** 81405 SLC25A20 (solute carrier family 25 [carnitine/acylcarnitine translocase], member 20) (eg, carnitine- acylcarnitine translocase deficiency), full gene sequence; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);
Carotene, Beta

**Specimen Requirements:** Supplies: Amber vial (T192) Specimen Type: Serum Container/Tube: Red Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain, red-top tube(s). (Serum gel tube is acceptable.) Spin Down and send 1 mL of serum ambient in an amber vial (T192) to protect from light. Note: 1. Protect from light within 1 hour of collection. 2. Patient must be fasting overnight (12 hours). 3. Abstain from alcohol for 24 hours prior to collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Ambient (preferred) 14 days
Frozen 14 days
Refrigerated 14 days

**CPT Code Information:** 82380

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**Carrot IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

**CPT Code Information:** 86001

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**Carrot, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**Casein IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
**Casein, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86008

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**Cashew IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**Cashew, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
**CPT Code Information:** 86003

**Caspofungin (Cancidas)**

**Specimen Requirements:** Container/Tube: Agar slant or other appropriate media Specimen Volume: Organism in pure culture Complete and submit with specimen: 1. Fungus Testing Lab request form Collection Instructions: 1. Organism must be in pure culture, actively growing 2. Place specimen in a large infectious container (T146) and label as an etiologic agent/infectious substance.

**Transport Temperature:**

Varies Ambient

**CPT Code Information:** 84999 - Unlisted Chemistry Procedure (Refer to patient report to apply the appropriate CPT code in place of this unlisted CPT code based on specimen source.); 87188 - mould - MIC microdilution or agar dilution (if appropriate); 87186 - yeast - MIC microdilution or agar dilution (if appropriate);

**CASRZ**

**CASR Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Varies Ambient (preferred) Frozen Refrigerated

**CPT Code Information:** 81405-CASR (calcium-sensing receptor) (eg, hypocalcemia), full gene sequence

**CBN**

**Castor Bean, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days Frozen 90 days

**CPT Code Information:** 86003
**Cat Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred)  14 days
Frozen  90 days

**CPT Code Information:** 86003

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**Catechol-O-Methyltransferase (COMT) Genotype**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: DNA Saliva Collection Kit (T786) Container/Tube: Saliva Swab Collection Kit (T786: fees apply) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
Varies

**CPT Code Information:** 0032U

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**Catecholamine Fractionation, Free, 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: Discontinue drugs that release or hinder metabolism of epinephrine, norepinephrine, or dopamine for at least 1 week before obtaining the specimen (see Cautions for details). If this is not possible for medical reasons, contact the laboratory to discuss whether a shorter drug-withdrawal period may be acceptable. Supplies: Plastic, 10-mL urine tube (T068) Specimen Volume: 2 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 25 mL of 50% acetic acid as preservative at start of collection. Use 15 mL of 50% acetic acid for children less than 5 years old. This preservative is intended to achieve a pH of between approximately 2 and 4. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
**Catecholamine Fractionation, Free, Plasma**

**Specimen Requirements:** Patient Preparation: Discontinue drugs that release epinephrine, norepinephrine, or dopamine, or hinder their metabolism for at least 1 week before obtaining the specimen (see Cautions for details). If this is not possible for medical reasons, contact the laboratory and discuss whether a shorter drug withdrawal period may be possible in a particular case. The patient must refrain from eating, using tobacco, and drinking caffeinated beverages for at least 4 hours before the specimen is drawn. Supplies: Catecholamine tubes containing EDTA-sodium metabisulfite solution (T066) (tubes have a 6-month expiration time) Submission Container/Tube: Plastic vial Specimen Volume: 3 mL Collection Instructions: 1. Drawing from a catheter is required. 2. Calm the patient by giving complete instructions and reassurance regarding the procedure. 3. Insert an indwelling intravenous catheter. Flush with 3 mL of NaCl, using positive pressure. 4. Have the patient rest for 30 minutes in the supine position in a quiet room. 5. At the end of the 30 minutes, withdraw and discard a minimum of 3 mL of blood to remove the saline out of the catheter. 6. If provocative sampling (eg, standing specimen) is required, perform provocative maneuver immediately after obtaining supine specimen. Obtain standing specimen immediately. 7. For each specimen, draw 10 mL of blood into the chilled EDTA-sodium metabisulfite 10-mL tube. 8. Specimens must remain at refrigerated temperature during processing and transport. 9. Separate plasma in a refrigerated centrifuge within 30 minutes of draw. 10. Freeze specimen immediately.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma EDTA Meta Frozen 7 days

**CPT Code Information:** 82384

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**Catfish (Siluriformes spp) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

**CPT Code Information:** 86003

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**Cathartic Laxatives Profile, Stool**

**Specimen Requirements:** 10 g of stool. No preservative. Send specimen in a acid-washed or trace metal-free plastic container, MML supply T656. Send specimen refrigerated.
**Specimen Minimum Volume:** 10 mL stool liquid or 10 g stool solid

**Transport Temperature:**
- Fecal Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen 30 days

**CPT Code Information:** 83735-Magnesium; 84100-Phosphorus Inorganic (Phosphate);

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**FCAFG 57680**

**Cauliflower IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**CALFL 82617**

**Cauliflower, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**CBC 9109**

**CBC with Differential, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 48 hours
- Ambient 24 hours

**CPT Code Information:** 85025; 85007 (if appropriate); 85060 (if appropriate);
CD10 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

CD103 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

CD11c Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

CD123 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

CD13

**CD13 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

CD138

**CD138 (Syndecan) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

CD14I

**CD14 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**CD15 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD163 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD19 Immunostain, Bone Marrow, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick; B5 fixed, decalcified, paraffin-embedded bone marrow tissue. Acceptable: B5 fixed, decalcified, paraffin-embedded bone marrow tissue block.

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD19 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
**CD1A**

**CD1a Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD2B**

**CD2 Immunostain, Bone Marrow, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick; B5 fixed, decalcified, paraffin-embedded bone marrow tissue. Acceptable: B5 fixed, decalcified, paraffin-embedded bone marrow tissue block.

**Transport Temperature:**

TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD2**

**CD2 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**CD20 Cell Expression Evaluation, Varies**

**Specimen Requirements:** Submit only 1 of the following specimens: 
- **Specimen Type:** Blood
  - **Container/Tube:** Preferred: Yellow top (ACD) Acceptable: Sodium heparin or EDTA
  - **Specimen Volume:** 10 mL
- **Collection Instructions:** 1. Do not transfer blood to other containers. 2. Label specimen as blood.
- **Specimen Stability Information:** Ambient/Refrigerated
- **Specimen Type:** Bone marrow
  - **Container/Tube:** Preferred: Yellow top (ACD) Acceptable: Sodium heparin or EDTA
  - **Specimen Volume:** 1-5 mL
- **Collection Instructions:** 1. Label specimen as bone marrow. 2. Submission of bilateral specimens is not required. 
- **Specimen Stability Information:** Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 3 mL Bone Marrow Aspirate: 1 mL

**Transport Temperature:**
- Blood: Varies
- Bone Marrow: Varies

**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker; 88187-Flow Cytometry Interpretation, 2 to 8 Markers;

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**CD20 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
- **Specimen Type:** Tissue
  - **Container/Tube:** Immunostain Technical Only Envelope (T693)
  - **Preferred:** 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY: Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD20 on B Cells**

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day.
- **Container/Tube:** Lavender top (EDTA)
- **Specimen Volume:** 3 mL
- **Collection Instructions:** Send specimen in original tube. Do not aliquot. 
- **Additional Information:** 1. Secondary aliquot tubes will be rejected. 2. Testing will be canceled if the specimen is not received ambient.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole Blood EDTA: Ambient
- EDTA: 4 days

**CPT Code Information:** 86355; 86356;

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**CD21 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
- **Specimen Type:** Tissue
  - **Container/Tube:** Immunostain Technical Only Envelope (T693)
  - **Preferred:** 2 unstained
positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CD22 I**  
70381  
**CD22 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CD23**  
70382  
**CD23 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CD25**  
70383  
**CD25 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated
**CD273 Immunostain, Technical Component Only**  
**CD273 (PD-L2)**  
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen  
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block  
**Transport Temperature:**  
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CD279 Immunostain, Technical Component Only**  
**CD279 (PD-1)**  
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen  
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block  
**Transport Temperature:**  
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CD3 Immunostain, Technical Component Only**  
**CD3I**  
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen  
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block  
**Transport Temperature:**  
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**CD30 Immunostain, Technical Component Only**  
**CD30**  
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen  
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
CD31 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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CD33 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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CD34 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**CD35 Immunostain, Technical Component Only**

*Specimen Requirements:* Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

*Transport Temperature:*

TECHONLY Ambient
(preferred)
Refrigerated

*CPT Code Information:* 88342-TC, primary; 88341-TC, if additional IHC;

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**CD38 Immunostain, Technical Component Only**

*Specimen Requirements:* Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

*Transport Temperature:*

TECHONLY Ambient
(preferred)
Refrigerated

*CPT Code Information:* 88342-TC, primary; 88341-TC, if additional IHC;

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**CD4 Count for Immune Monitoring, Blood**

*Specimen Requirements:* For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: 4 mL Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

*Specimen Minimum Volume:* 0.2 mL

*Transport Temperature:*
Whole Blood EDTA Ambient 72 hours

*CPT Code Information:* 86359-T cells, total count; 86360-Absolute CD4/CD8 count with ratio;

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**CD4 Count for Monitoring, New York, Blood**

*Specimen Requirements:* For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: 4 mL Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

*Specimen Minimum Volume:* 1 mL

*Transport Temperature:*
Whole Blood EDTA Ambient 72 hours
CD4 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693)
Preferred: 2 unstained positively charged glass slide (25-x 75-x 1-mm) per test ordered; sections 4-microns thick.
Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 86359; 86360;

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CD4 RT
CD4 T-Cell Recent Thymic Emigrants (RTE)

**Specimen Requirements:** Supplies: Ambient Mailer-Critical Specimens Only (T668)
Container/Tube: Lavender top (EDTA)
Specimen Volume: 3 mL
Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
Whole Blood EDTA Ambient 48 hours

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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CD43 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693)
Preferred: 2 unstained positively charged glass slide (25-x 75-x 1-mm) per test ordered; sections 4-microns thick.
Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 86356

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CD45I Leukocyte Common Antigen (LCA) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693)
Preferred: 2 unstained positively charged glass slide (25-x 75-x 1-mm) per test ordered; sections 4-microns thick.
Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

CD49d Cell Expression Evaluation, Varies

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Blood
Container/Tube: Preferred: Yellow top (ACD) Acceptable: Sodium heparin or EDTA Specimen Volume: 10 mL
Collection Instructions: 1. Do not transfer blood to other containers. 2. Label specimen as blood.
Specimen Stability Information: Ambient/Refrigerated Specimen Type: Bone marrow Container/Tube: Preferred: Yellow top (ACD) Acceptable: Sodium heparin or EDTA Specimen Volume: 1-5 mL
Collection Instructions: 1. Label specimen as bone marrow. 2. Submission of bilateral specimens is not required. Specimen Stability Information: Ambient/Refrigerated

Specimen Minimum Volume: Blood: 3 mL Bone Marrow Aspirate: 1 mL

Transport Temperature: Varies Varies 4 days

CPT Code Information: 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker;
88185 x 3-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker; 88187-Flow
Cytometry Interpretation, 2 to 8 Markers;

CD5 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

CD52 Cell Expression Evaluation, Varies

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Blood
Container/Tube: Preferred: Yellow top (ACD) Acceptable: Sodium heparin or EDTA Specimen Volume: 10 mL
Collection Instructions: 1. Do not transfer blood to other containers. 2. Label specimen as blood.
Specimen Stability Information: Ambient/Refrigerated Specimen Type: Bone marrow Container/Tube: Preferred: Yellow top (ACD) Acceptable: Sodium heparin or EDTA Specimen Volume: 1-5 mL
Collection Instructions: 1. Label specimen as bone marrow. 2. Submission of bilateral specimens is not required. Specimen Stability Information: Ambient/Refrigerated

Specimen Minimum Volume: Blood: 3 mL Bone Marrow Aspirate: 1 mL
Transport Temperature:
Varies Varies 4 days

CPT Code Information: 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185 x 3-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker; 88187-Flow Cytometry Interpretation, 2 to 8 Markers;

CD56 Immunostain, Technical Component Only
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

CD57 Immunostain, Technical Component Only
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

CD61 Immunostain, Technical Component Only
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
**CD68 (KP1) Immunostain, Bone Marrow, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick; B5 fixed, decalcified, paraffin-embedded bone marrow tissue. Acceptable: B5 fixed, decalcified, paraffin-embedded bone marrow tissue block.

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD68 (KP1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD68 (PG-M1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CD7 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**CD71 Immunostain, Technical Component Only**

**CD71 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**CD79a Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**CD8 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
CD8 T-Cell Immune Competence Panel, Global

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day. Supplies: Ambient Mailer-Critical Specimens Only (T668) Two separate specimens are required. Specimen Type: EDTA whole blood Container/Tube: 4 mL Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Send specimen in original tube. Do not aliquot. 2. Label specimen as blood for TBBS / Quantitative Lymphocyte Subsets: T, B, and Natural Killer (NK) Specimen Type: Sodium heparin whole blood Container/Tube: Green top (sodium heparin) Specimen Volume: 15 mL Collection Instructions: Label specimen as blood for GLIC / CD8 T-Cell Immune Competence, Global, Blood.

**Specimen Minimum Volume:** CD8 Immune Competence: 10 mL; Quantitative Lymphocyte Subsets: 1 mL

**Transport Temperature:**
WB Sodium Heparin  Ambient 48 hours
Whole Blood EDTA  Ambient 52 hours

**CPT Code Information:** QN Lymphocyte Subsets: T, B, and NK; 86355-B cells, total count; 86357-Natural killer (NK) cells, total count; 86359-T cells, total count; 86360-Absolute CD4/CD8 count with ratio; CD8 T-Cell Immune Competence, Global, Blood; 86356 x 2;

CD8 T-Cell Immune Competence, Global, Blood

**Specimen Requirements:** Supplies: Ambient Mailer-Critical Specimens Only (T668) Container/Tube: Green top (sodium heparin) Specimen Volume: 15 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 10 mL

**Transport Temperature:**
WB Sodium Heparin  Ambient 48 hours

**CPT Code Information:** 86356 x 2

CD99 (MIC-2) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

CDH1 Gene, Full Gene Analysis
Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Varies
(Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 81406-CDH1 (cadherin 1, type 1, E-cadherin [epithelial]) (eg, hereditary diffuse gastric cancer), full gene sequence; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

CDKZ
35385

CDKN1C Gene, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

Specimen Minimum Volume: Blood: 1 mL

Transport Temperature:
Varies

CPT Code Information: 81479-Unlisted molecular pathology procedure; 85233-Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

CDX2
70401

CDX2 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
**CEBPA**

**Mutations, Gene Sequencing**

**Specimen Requirements:** Submit only 1 of the following specimens:
- **Specimen Type:** Peripheral Blood
  - **Container/Tube:** EDTA (lavender top or ACD (yellow top))
  - **Specimen Volume:** 3 mL
  - **Collection Instructions:** 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood.
- **Specimen Stability:** Ambient (preferred)/Refrigerate
- **Specimen Type:** Bone marrow
  - **Container/Tube:** EDTA (lavender top) or ACD (yellow top)
  - **Specimen Volume:** 2 mL
  - **Collection Instructions:** 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.
- **Specimen Stability:** Ambient (preferred)/Refrigerate
- **Specimen Type:** Extracted DNA from blood or bone marrow
  - **Container/Tube:** 1.5- to 2-mL tube
  - **Specimen Volume:** Entire specimen
  - **Collection Instructions:** Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of the DNA.
- **Specimen Stability:** Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies
- Varies 7 days

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**FRCE**

**57952**

**Cedar Red (Juniperus virginiana) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 28 days

**CPT Code Information:** 81218-CEBPA (CCAAT/enhancer binding protein [C/EBP], alpha) (eg, acute myeloid leukemia), gene analysis, full gene sequence

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**CEDR**

**82482**

**Cedar, IgE**

**Specimen Requirements:**
- **Container/Tube:** Preferred: Red top
- Acceptable: Serum gel
- **Specimen Volume:** 0.5 mL for each 5 allergens requested
- **Additional Information:** Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

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FCELG 57638

Celery IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86003

CELY 82766

Celery, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

CELI 88906

Celiac Associated HLA-DQ Alpha 1 and DQ Beta 1 DNA Typing, Blood

**Specimen Requirements:** Container/Tube: Yellow top (ACD solution B) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Whole Blood ACD-B Refrigerated (preferred)
- Ambient

**CPT Code Information:** 81376 x 2-HLA Class II typing, low resolution (eg, antigen equivalents); one locus (eg, HLA-DRB1/3/4/5, -DQB1, -DQA1, -DPB1, or -DPA1), each;
**Celiac Disease Comprehensive Cascade**

**Specimen Requirements:** Both blood and serum are required. Specimen Type: Blood
Container/Tube: Yellow top (ACD [solution B]) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL

**Specimen Minimum Volume:** Blood: 3 mL; Serum: 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days

Whole Blood ACD-B Refrigerated (preferred)

- Ambient

**CPT Code Information:** 82784-IgA; 81376 x2-HLA-DQ Typing; 83516-Deamidated gliadin IgA (if appropriate); 83516-Deamidated gliadin IgG (if appropriate); 83516-tTG IgA (if appropriate); 83516-tTG IgG (if appropriate); 86255-Endomysial antibodies (if appropriate);

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**Celiac Disease Gluten-Free Cascade**

**Specimen Requirements:** Both blood and serum are required. Specimen Type: Blood
Container/Tube: Yellow top (ACD solution B) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL

**Specimen Minimum Volume:** Blood: 3 mL/Serum 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days

Whole Blood ACD-B Refrigerated (preferred)

- Ambient

**CPT Code Information:** 81376 x 2-HLA-DQ typing; 82784-IgA (if appropriate); 83516-Deamidated gliadin IgA (if appropriate); 83516-Deamidated gliadin IgG (if appropriate); 83516-tTG IgA (if appropriate); 83516-tTG IgG (if appropriate);

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**Celiac Disease Serology Cascade**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days
**Cell Count and Differential, Body Fluid**

**Specimen Requirements:** For Local Accounts Only Sources: Synovial, pleural, peritoneal and pericardial Container/Tube: Preferred: Body fluid container Acceptable: EDTA or heparin Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Body Fluid Ambient (preferred) 24 hours
- Refrigerated 24 hours

**CPT Code Information:** 89051-Cell count with differential count; 88108-Cytology for abnormal cells (if appropriate);

**Cell-Bound Platelet Autoantibody Screen, Blood**

**Specimen Requirements:** Patient Preparation: Do not collect within 72 hours of a platelet transfusion. Transfused platelets will interfere with this assay. Container/Tube: Lavender top (EDTA) Specimen Volume: 20 mL Collection Instructions: The patient must have a platelet count >10,000/microliter.

**Specimen Minimum Volume:** Adults: 10 mL; Pediatrics: 5 mL

**Transport Temperature:**
- Whole Blood EDTA Ambient 48 hours

**CPT Code Information:** 86023

**Cell-Free DNA BRAF V600 Test, Blood**

**Specimen Requirements:** Supplies: Streck Black/Tan Top Tube Kit (T715) Specimen Volume: Two, 10-mL Streck Cell-Free DNA blood collection tubes Additional Information: 1. Only blood collected in Streck Cell-Free DNA BCT tubes will be accepted for analysis. 2. Whole blood will be processed to produce platelet-poor plasma before cfDNA isolation.

**Specimen Minimum Volume:** One 10 mL Streck tube

**Transport Temperature:**
- Whole blood Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 81210

**Cell-Free DNA EGFR Exon 18, 19, 20, 21, Mutation Analysis, Blood**

**CPT Code Information:** 82784-IgA; 83516-Deamidated gliadin IgA (if appropriate); 83516-Deamidated gliadin IgG (if appropriate); 83516-tTG IgA (if appropriate); 83516-tTG IgG (if appropriate); 86255-Endomysial antibodies (if appropriate);

Specimen Minimum Volume: 2 mL

Transport Temperature:
Plasma EDTA Frozen 365 days

CPT Code Information: 81235

Cell-Free DNA EGFR T790M Mutation Analysis, Blood

Specimen Requirements: Supplies: Streck Black/Tan Tube Kit (T-715) Specimen Volume: Two 10-mL Streck Cell-Free DNA blood collection tubes Additional Information: 1. Only blood collected in Streck Cell-Free DNA BCT tubes will be accepted for analysis. Whole blood will be processed to produce platelet poor plasma before cfDNA isolation. 2. Samples should be transported at room temperature or refrigerated (4°-8°C). 3. Samples are viable for 7 days in the Streck Cell-Free DNA BCT tube.

Specimen Minimum Volume: One 10 mL Streck tube

Transport Temperature:
Whole blood Ambient (preferred) 7 days
Refrigerated 7 days

CPT Code Information: 81235

Cell-free DNA KRAS 12, 13, 61,146, Blood

Specimen Requirements: Supplies: Streck Black/Tan Tube Kit (T715) Container/Tube: Streck Cell-Free DNA blood collection kit (T715) Specimen Volume: Two 10-mL Streck Cell-Free DNA blood collection tubes Additional Information: Only blood collected in Streck Cell-Free DNA BCT tubes will be accepted for analysis. Whole blood will be processed to produce platelet-poor plasma before cfDNA isolation.

Specimen Minimum Volume: One 10 mL Streck tube

Transport Temperature:
Whole blood Ambient (preferred) 7 days
Refrigerated 7 days

CPT Code Information: 81275; 81276;

Cell-Free DNA Prenatal Screen

Specimen Requirements: Supplies: Streck Black/Tan Tube Kit (T715) Specimen Volume: Two 10-mL Streck Cell-Free DNA blood collection tubes Additional Information: 1. Specimens received from patients who are considered "low risk" will not be rejected but insurance may not cover testing. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

Specimen Minimum Volume: One 10 mL Streck tube
**Transport Temperature:**
Whole blood Ambient (preferred) 7 days
Refrigerated 7 days

**CPT Code Information:** 81420

**NIPST 65518**

**Cell-Free DNA Prenatal Screen, Autosomal Trisomy and Sex Chromosome Aneuploidy**

**Specimen Requirements:** Supplies: Streck Black/Tan Top Tube Kit (T715) Specimen Volume: Two 10-mL Streck Cell-Free DNA blood collection tubes Additional Information: 1. Specimens received from patients who are considered "low risk" will not be rejected but insurance may not cover testing. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** One 10-mL Streck tube

**Transport Temperature:**
Whole blood Ambient (preferred) 7 days
Refrigerated 7 days

**CPT Code Information:** 81420

**CNSA 70644**

**Central Nervous System Consultation, Autopsy**

**Specimen Requirements:** Hematoxylin-and-eosin stained sections are also acceptable, but must be accompanied by paraffin blocks and/or remaining wet tissue. In cases submitted as part of a research protocol, please contact 507-284-3887 for further guidance. Supplies: Central Nervous System Consult Kit (T633) Sources: Brain (and spinal cord when indicated) Container/Tube: Plastic container Specimen Volume: 1 cm(3) cube Collection Instructions: 1. Take a small (1 cm[3]) cube of brain from 1 of the frontal lobes (typically, right inferior frontal). 2. Wrap in aluminum foil and place in plastic container. 3. Label container with identifying information (ie, patient name, date of birth, autopsy number, and date of collection). 4. Freeze and store in a -70°C freezer. 5. Place the remaining brain in 10% formalin if non-CJD, and 15% formalin for suspected cases of CJD, suspended by a thread under the basilar artery and fixed for 7 to 10 days. Additional Information: Upon completion of consultation, the brain tissue will be stored indefinitely in the Mayo Clinic Tissue Registry. The Mayo Clinic policy precludes our evaluation of cases under litigation that involve non-Mayo Clinic patients.

**Specimen Minimum Volume:** Entire collection

**Transport Temperature:**
Varies Ambient (preferred)
Frozen
Refrigerated

**CPT Code Information:** 88037 (if appropriate); 88036 (if appropriate);

**CMA 9278**

**Centromere Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
**CEAC 82387**

**Cephalosporium acremonium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**CTSA 81979**

**Ceramide Trihexosides and Sulfatides, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 2 mL Collection Instructions: Collect a first-morning, random urine specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Frozen (preferred) 45 days
  - Ambient 45 days
  - Refrigerated 45 days

**CPT Code Information:** 82542

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**CTSNR 37998**

**Ceramide Trihexosides and Sulfatides, Urine**

**Specimen Requirements:** Only orderable as part of a profile. See LYSDU / Lysosomal Storage Disorders Screen, Urine. For more information regarding ceramide trihexosides and sulfatides, see CTSA / Ceramide Trihexosides and Sulfatides, Urine. Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 1 mL Pediatric Volume: 0.5 mL Collection Instructions: 1. Collect a random urine specimen (early morning preferred). 2. Immediately freeze specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Frozen (preferred) 45 days
<table>
<thead>
<tr>
<th>Specimen</th>
<th>Ambient</th>
<th>Refrigerated</th>
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<td>Ceramides, Plasma</td>
<td>45 days</td>
<td>45 days</td>
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**CPT Code Information:** 82542

### CERAM 65054

**Ceramides, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Centrifuge, aliquot at least 1 mL plasma and freeze within 8 hours.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 30 days
- Refrigerated 24 hours
- Ambient 8 hours

**CPT Code Information:** 82542

### SFIN 8009

**Cerebrospinal Fluid (CSF) IgG Index**

**Specimen Requirements:** Both serum and spinal fluid are required. Specimens must be obtained within 1 week of each other. Specimen Type: Serum Container/Tube: Red top or serum gel Specimen Volume: 1 mL Collection Instructions: Label specimen as serum. Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 1 mL Collection Instructions: Label specimen as spinal fluid.

**Specimen Minimum Volume:** Serum: 0.5 mL Spinal Fluid: 0.5 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
  - Ambient 14 days
  - Frozen 14 days
- Serum Refrigerated (preferred) 14 days
  - Ambient 14 days
  - Frozen 14 days

**CPT Code Information:** 82040-Albumin, serum; 82042-Albumin, spinal fluid; 82784 x 2-IgG, serum and spinal fluid;

### FCERT 75198

**Certolizumab pegol and Anti-Certolizumab Antibodies, Serum**

**Specimen Requirements:** Specimen Type: SST Serum Container/Tube: SST Specimen Volume: 7 mL Collection Instructions: Draw blood in a serum gel tube(s), plain red-top tube(s) is NOT acceptable. Spin down and send 7 mL of serum refrigerated (DO NOT ALIQUOT).

**Specimen Minimum Volume:** 5 mL
Ceruloplasmin, Serum

**Specimen Requirements:** Patient Preparation: Patient should be fasting (4 hours preferred, nonfasting acceptable). Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 80299; 83520;

CFTR Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) or yellow top (ACD) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Patient education brochures in English (T548) and Spanish (T563) are available upon request.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81223-CFTR (cystic fibrosis transmembrane conductance regulator) (eg, cystic fibrosis) gene analysis; full gene sequence; 81222;

Chaetomium globosum, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
FAMCE 57914

**Cheese American IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

FCCGG 57573

**Cheese Cheddar IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

FSCE 57936

**Cheese Swiss IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

CCHZ 82752

**Cheese, Cheddar, IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86003
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**MCHZ 82751 Cheese, Mold, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**CHEKZ 35391 CHEK2 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology code; ; Hereditary Colon Cancer CGH Array; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

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**CHER 82798 Cherry, IgE**
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

CTRE
82607

Chestnut Tree, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

CNUT
82870

Chestnut, Sweet, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

CHICF
35264

CHIC2 (4q12) Deletion (Flp1L1 and PDGFRA Fusion), FISH

Specimen Requirements: Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection
Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL

**Transport Temperature:**
Variates
(preferred)
Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**CHXP 82494 Chick Pea, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**CDROP 82142 Chicken Droppings, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**CHCK 82713 Chicken Feathers, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Chicken IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**Chicken Serum Proteins, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Chicken, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
**CHIKG 63868**

**Chikungunya IgG, Antibody, Serum**

**Specimen Requirements:** Only orderable as part of a profile. For more information see CHIKV / Chikungunya IgM and IgG, Antibody, Serum.

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
- Frozen 30 days

**CPT Code Information:** 86003

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**CHIKV 64173**

**Chikungunya IgM and IgG, Antibody, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
- Frozen 30 days

**CPT Code Information:** IgM: 86790; IgG: 86790;

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**CHIKM 63867**

**Chikungunya IgM, Antibody, Serum**

**Specimen Requirements:** Only orderable as part of a profile. For more information see CHIKV / Chikungunya IgM and IgG, Antibody, Serum.

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
- Frozen 30 days

**CPT Code Information:** 86790

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**CHIKI 37102**

**Chikungunya Interpretation**

**Specimen Requirements:** Only orderable as part of a profile. For more information see CHIKV / Chikungunya IgM and IgG, Antibody, Serum.

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
- Frozen 30 days
Chikungunya Virus RNA, Qualitative Real-Time PCR

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 0.7 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.7 mL serum in a screw-capped vial, shipped refrigerate.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days
- Ambient 48 hours

**CPT Code Information:** 87798

Chili Pepper, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Chimerism Transplant No Cell Sort

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD Specimen Volume: 4 mL Collection Instructions: 1. Only 1 tube is required. 2. Invert several times to mix blood. 3. Send specimen in original tube. 4. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** Blood: 3 mL Bone Marrow: 2 mL Lesser volumes may be acceptable, depending on white cell count. Call 800-533-1710 or 507-266-5700 with questions.

**Transport Temperature:**
- Varies Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 81267-Chimerism (engraftment) analysis, post hematopoietic stem cell transplantation specimen, includes comparison to previously performed baseline analyses; without cell selection
**CHIMS**

**62984**

**Chimerism Transplant Sorted Cells**

**Specimen Requirements:** Submit only 1 of the following specimens:

- **Specimen Type:** Blood
  - **Container/Tube:** Preferred: Lavender top (EDTA)
  - Acceptable: ACD
  - **Specimen Volume:** 4 mL

- **Collection Instructions:**
  1. Invert several times to mix blood.
  2. Send specimen in original tube.
  3. Label specimen as blood.

- **Specimen Type:** Bone marrow
  - **Container/Tube:** Preferred: Lavender top (EDTA)
  - Acceptable: ACD
  - **Specimen Volume:** 2 mL

- **Collection Instructions:**
  1. Invert several times to mix bone marrow.
  2. Send specimen in original tube.
  3. Label specimen as bone marrow.

**Specimen Minimum Volume:** Blood: 3 mL; Bone Marrow: 2 mL/Lesser volumes may be acceptable, depending on white cell count.

**Transport Temperature:**

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<th>Type</th>
<th>Ambient (preferred)</th>
<th>Refrigerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood</td>
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<td>4 days</td>
</tr>
<tr>
<td>Bone Marrow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CPT Code Information:** 81268-Chimerism (engraftment) analysis, post hematopoietic stem cell transplantation specimen, includes comparison to previously performed baseline analyses; with cell selection (e.g., CD3, CD33), each cell type (if appropriate)

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**CHIDB**

**83182**

**Chimerism-Donor**

**Specimen Requirements:** Complete chimerism analysis also requires submission of CHRGB / Chimerism-Recipient Germline (Pre) and CHIMU / Chimerism Transplant No Cell Sort or CHIMS / Chimerism Transplant Sorted Cells specimens. These tests must be ordered on both the pre- and post-specimens under separate order numbers. The 3 specimens do not need to be submitted at the same time. Submit only 1 of the following specimens:

- **Specimen Type:** Blood
  - **Container/Tube:** Preferred: Lavender top (EDTA)
  - **Specimen Volume:** 6 mL

- **Collection Instructions:**
  1. Invert several times to mix blood.
  2. Send specimen in original tube.
  3. Label specimen as blood.

- **Specimen Type:** Bone marrow
  - **Container/Tube:** Preferred: Lavender top (EDTA)
  - **Specimen Volume:** 2 mL

- **Collection Instructions:**
  1. Invert several times to mix bone marrow.
  2. Send specimen in original tube.
  3. Label specimen as bone marrow.

**Specimen Minimum Volume:** Blood: 3 mL; Bone Marrow: 2 mL/Lesser volumes may be acceptable, depending on white cell count.

**Transport Temperature:**

<table>
<thead>
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<th>Type</th>
<th>Ambient (preferred)</th>
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</thead>
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<td>7 days</td>
<td>7 days</td>
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<tr>
<td>Bone Marrow</td>
<td></td>
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</tr>
</tbody>
</table>

**CPT Code Information:** 81265-Comparative analysis using short tandem repeat (STR) markers; patient and comparative specimen (e.g., pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [e.g., buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells)
**Chimerism-Recipient Germline (Pre)**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD Specimen Volume: 6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Type: Buccal swab Supplies: Buccal Swab Kit (T543) Container/Tube: Buccal Smear Collection Kit (T543) Specimen Volume: 2 Cyto-Pak brushes-1 per cheek Collection Instructions: 1. Patient should rinse out mouth vigorously with mouthwash for approximately 15 seconds. 2. Remove Cyto-Pak brush from container only touching "stick" end. Save container. 3. Using medium pressure, rotate brush several times on inside of cheek. 4. Return brush to container and cap. 5. Repeat steps 2 through 4 on other cheek using second brush. 6. It is important that patient's buccal cells are not contaminated with cells from any other source. Do not touch bristles. Do not brush too vigorously. If blood appears, discard brush. Restart collection process. 7. Label each container with patient's name and order number or hospital/clinic number. Additional Information: It is important that the cells do not dry out during shipping. Ensure that container is tightly sealed.

**Specimen Minimum Volume:** Blood: 3 mL; Bone Marrow: 2 mL; Lesser volumes may be acceptable, depending on white cell count. Call the Mayo Medical Laboratories at 800-533-1710 or 507-266-5700 with questions.

**Transport Temperature:**
- Varies Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (e.g., pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [e.g., buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells)

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**Chlamydia Pneumoniae PCR**

**Specimen Requirements:** Submit one of the following: Serum Specimen Type: Serum Container/Tube: Red Specimen Volume: 1mL Collection Instructions: Draw blood in a plain red-top tube(s), (SST NOT acceptable). Spin down and send 1 mL serum in a screw-capped vial, shipped frozen. Plasma Specimen Type: Whole blood or Plasma Container/Tube: 4 mL or 6 mL lavender-top EDTA tube Specimen Volume: 4 mL or 6 mL Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s). Spin down as soon as possible and send 4 mL or 6 mL of EDTA plasma frozen in a plastic vial. Acceptable Alternative Specimen Type: Bronchial Wash or Sputum Sources: Bronchial Wash or Sputum Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Collect 1 mL in a sterile container. Ship frozen. Note: Source required.

**Specimen Minimum Volume:** 0.5 mL pediatric

**Transport Temperature:**
- Varies Frozen (preferred) 180 days
- Refrigerated 72 hours
- Ambient 12 hours

**CPT Code Information:** 87486
Chlamydia Serology, Serum

Specimen Requirements:
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.2 mL

Specimen Minimum Volume: 0.15 mL

Transport Temperature:
- Serum Refrigerated (preferred) 30 days
- Frozen 30 days

CPT Code Information: 86631 x 3-IgG; 86632 x 3-IgM;

Chlamydia trachomatis and Neisseria gonorrhoeae by Nucleic Acid Amplification (HOLOGIC)

Specimen Requirements:
- Submit only 1 of the following specimens: Swab specimen must be collected using an Aptima Collection Unisex Swab (T583) or Aptima Collection Multitest Swab (T584, formerly called Aptima Vaginal Swab Specimen Collection Kit). These swabs are contained in the Aptima Collection Kit. Supplies: Swab, Aptima Male/Female Collection (T583) Specimen Type: Endocervix
- Container/Tube: Aptima Collection Unisex Swab (T583) Specimen Volume: Swab Collection Instructions: 1. Use cleaning swab (white shaft) to remove excess mucus from endocervix and discard. 2. Insert second swab (blue shaft) 1 to 1.5 cm into endocervical canal, and rotate swab gently for 30 seconds. Avoid touching vaginal wall when removing swab. 3. Place second swab into transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 4. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 5. Transport and store swab container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months. Supplies: Swab, Aptima Multitest Swab Specimen Collection Kit (T584) Specimen Type: Vaginal
- Container/Tube: Aptima Collection Multitest Swab (T584) Specimen Volume: Swab Collection Instructions: 1. Insert swab (pink shaft) about 5 cm past introitus and rotate gently for 30 seconds. 2. Place swab into transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 3. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 4. Transport and store swab container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months. Supplies: Swab, Aptima Male/Female Collection (T583) Specimen Type: Urethra (Males Only)
- Container/Tube: Aptima Collection Unisex Swab (T583) Specimen Volume: Swab Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to collection. 2. With a rotating movement, insert swab (blue shaft) 2 to 4 cm into urethra. 3. Once inserted, rotate swab gently at least 1 full rotation using sufficient pressure to ensure swab comes into contact with all urethral surfaces. Allow swab to remain inserted for 2 to 3 seconds. 4. Place swab in transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 5. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 6. Transport and store swab container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months. Supplies: Aptima Urine Transport Tube (T582) Specimen Type: Urine (Males and Females)
- Container/Tube: Aptima Urine Specimen Transport Tube (T582) Specimen Volume: 15-20 mL Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to specimen collection. 2. Patient should collect first portion of random voided urine (first part of stream) into a sterile, plastic, preservative-free container. 3. Transfer 2 mL of urine into the urine specimen transport tube using the disposable pipette provided within 24 hours of collection. The correct volume of urine has been added when the fluid level is between the black fill lines on the urine transport tube. Place the labels on the transport tube so the black fill lines are still visible for volume confirmation at Mayo Medical Laboratories. 4. Transport and store urine specimen transport container at 2 to 30°C (refrigerate is preferred temperature) within 30 days of collection. If longer storage is needed, freeze at -20 to -70°C.
for 12 months. Supplies: Aptima Thin Prep Transport Tube (T652) Specimen Type: ThinPrep Specimen (Endocervix) Container/Tube: ThinPrep (also called PreservCyt) Collection Kit Specimen Volume: 1 mL Collection Instructions: 1. Aliquot ThinPrep specimen for Chlamydia and/or Neisseria testing before processing for Pap smear. For each specimen, use a new pair of clean gloves. 2. Vortex ThinPrep/PreservCyt vial 3 to 10 seconds. Within 1 minute of vortexing: a. Transfer 1 mL of specimen into the Aptima Specimen Transfer Tube (T652) using a disposable transfer pipette or a pipette tip containing a filter (aerosol barrier or hydrophobic plug). b. Process only 1 ThinPrep and transfer tube set at a time. c. Recap Aptima Specimen Transfer Tube tightly and gently invert 3 times to mix. 3. Label Aptima transfer tube with appropriate label. 4. Use remainder of ThinPrep specimen for Pap testing. 5. Transport and store specimen transfer container at 2 to 30\(^\circ\)C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70\(^\circ\)C for 12 months.

**Specimen Minimum Volume:** Endocervical in PreservCyt: 1mL Urine: 2 mL Swabs (Endocervical, Urethral, Vaginal): Entire Collection

**Transport Temperature:**
- Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 87491-Chlamydia trachomatis; 87591-Neisseria gonorrhoeae;

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**Chlamydia trachomatis by Nucleic Acid Amplification (HOLOGIC)**

**Specimen Requirements:** Submit only 1 of the following specimens: Swab specimen must be collected using an Aptima Collection Unisex Swab (T583), or Aptima Collection Multitest Swab (T584, formerly called Aptima Vaginal Swab Specimen Collection Kit). These swabs are contained in the Aptima Collection Kit. Supplies: Swab, Aptima Male/Female Collection (T583) Specimen Type: Endocervix Container/Tube: Aptima Collection Unisex Swab (T583) Specimen Volume: Swab Collection Instructions: 1. Use cleaning swab (white shaft) to remove excess mucus from endocervix and discard. 2. Insert second swab (blue shaft) 1 to 1.5 cm into endocervical canal, and rotate swab gently for 30 seconds. Avoid touching vaginal wall when removing swab. 3. Place second swab into transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 4. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 5. Transport and store swab container at 2 to 30\(^\circ\)C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70\(^\circ\)C for 12 months. Supplies: Swab, Aptima Multitest Swab Specimen Collection Kit (T584) Specimen Type: Vaginal Container/Tube: Aptima Collection Multitest Swab (T584) Specimen Volume: Swab Collection Instructions: 1. Insert swab (pink shaft) about 5 cm past introitus and rotate gently for 30 seconds. 2. Place swab into transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 3. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 4. Transport and store swab container at 2 to 30\(^\circ\)C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70\(^\circ\)C for 12 months. Supplies: Swab, Aptima Male/Female Collection (T583) Specimen Type: Urethra (Males Only) Container/Tube: Aptima Collection Unisex Swab (T583) Specimen Volume: Swab Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to collection. 2. With a rotating movement, insert swab (blue shaft) 2 to 4 cm into urethra. 3. Once inserted, rotate swab gently at least 1 full rotation using sufficient pressure to ensure swab comes into contact with all urethral surfaces. Allow swab to remain inserted for 2 to 3 seconds. 4. Place swab in transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 5. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 6. Transport and store swab container at 2 to 30\(^\circ\)C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70\(^\circ\)C for 12 months. Supplies: Aptima Urine Transport Tube (T582) Specimen Type: Urine (Males and Females)

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**CTRNA 61551**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 249
**Collection Instructions:**
1. Patient should not have urinated for at least 1 hour prior to specimen collection.
2. Patient should collect first portion of random voided urine (first part of stream) into a sterile, plastic, preservative-free container.
3. Transfer 2 mL of urine into the urine specimen transport tube using the disposable pipette provided within 24 hours of collection. The correct volume of urine has been added when the fluid level is between the black fill lines on the urine transport tube. Place the labels on the transport tube so the black fill lines are still visible for volume confirmation at Mayo Medical Laboratories.
4. Transport and store urine specimen transport container at 2 to 30°C (refrigerate is preferred temperature) within 30 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months.

**Supplies:** Aptima Thin Prep Transport Tube (T652) Specimen Type: ThinPrep Specimen (Endocervix) Collection Kit Specimen Volume: 1 mL Collection Instructions: 1. Aliquot ThinPrep specimen for Chlamydia and/or Neisseria testing before processing for Pap smear. For each specimen, use a new pair of clean gloves. 2. Vortex ThinPrep/PreservCyt vial 3 to 10 seconds. Within 1 minute of vortexing: a. Transfer 1 mL of specimen into the Aptima Specimen Transfer Tube (T652) using a disposable transfer pipette or a pipette tip containing a filter (aerosol barrier or hydrophobic plug). b. Process only 1 ThinPrep and transfer tube set at a time. c. Recap Aptima Specimen Transfer Tube tightly and gently invert 3 times to mix. 3. Label Aptima transfer tube with appropriate label. 4. Use remainder of ThinPrep specimen for Pap testing. 5. Transport and store specimen transfer container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months.

**Specimen Minimum Volume:** Endocervix in PreservCyt: 1mL Urine: 2 mL Swabs (Endocervical, Urethral, Vaginal): Entire Collection

**Transport Temperature:**
- Varies
- Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 87491

**Chlamydia trachomatis, Miscellaneous Sites, by Nucleic Acid Amplification**

**Specimen Requirements:** Swab specimens must be collected using an Aptima Collection Unisex Swab (T583), or Aptima Collection Multitest Swab (T584). These swabs are contained in the Aptima Collection Kit. Submit only 1 of the following specimens: Supplies: Swab, Aptima Male/Female Collection (T583) Swab, Aptima Multitest Swab Specimen Collection Kit (T584, formerly called Aptima Vaginal Swab Specimen Collection Kit) Specimen Type: Oral/throat or ocular (corneal/conjunctiva) or rectal/anal Container/Tube: Aptima Collection Multitest Swab (T584) or Aptima Swab Collection System (T583) Specimen Volume: Swab Collection Instructions: 1. Swab site using Aptima Collection Multitest Swab (T584) or Aptima Collection Unisex Swab (T583). Note: The white swab provided within the collection kit is a cleaning swab and should not be used for collection. Discard the white cleaning swab. 2. Place swab in transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 3. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 4. Transport swab container to laboratory and store (refrigerated is preferred) within 60 days of collection. Supplies: Aptima Thin Prep Transport Tube (T652) Specimen Type: Peritoneal fluid (pelvic wash, cul-de-sac fluid) Container/Tube: Aptima Specimen Transfer Tube (T652) Specimen Volume: 1 mL Collection Instructions: 1. Transfer specimen into the Aptima Specimen Transfer Tube (T652) within 24 hours of collection. 2. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 3. Transport Aptima Specimen Transfer Tube to laboratory (refrigerated is preferred) within 30 days of collection.
**Specimen Minimum Volume:** Oral/Throat, Ocular, Anal/Rectal Swabs: Entire collection Peritoneal Fluid: 1 mL

**Transport Temperature:**
Varies Refrigerated (preferred)

- Ambient
- Frozen

**CPT Code Information:** 87491

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**Chlamydia pneumoniae DNA, Qualitative Real-Time PCR**

**Specimen Requirements:** Submit only 1 of the following specimen types: Note: Source is required. Respiratory specimen (Preferred): (Throat or Nasopharyngeal) Collect respiratory specimen in sterile vial containing 3 mL of sterile M4 media or V-C-M medium (green-top) tube or equivalent (UTM) for swabs. Ship refrigerate. Bronchial Wash/Lavage Collect 1 mL in a sterile leak-proof container and ship refrigerated. Sputum Collect 1 mL in a sterile plastic container and ship refrigerated.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days

- Frozen 30 days
- Ambient 48 hours

**CPT Code Information:** 87486

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**Chlordane and Metabolites, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 3 mL of serum refrigerated. Note: 1. Indicate serum on report form. 2. Label specimen appropriately (serum). Plasma Draw blood in a lavender-top (EDTA) tube(s). (Plasma gel tube is not acceptable.) Spin down and send 3 mL of EDTA plasma refrigerated. Note: 1. Indicate plasma on report form. 2. Label specimen appropriately (plasma).

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 150 days

- Frozen 150 days
- Ambient 14 days

**CPT Code Information:** 82441

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**Chlordiazepoxide and Metabolite, Serum**

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL Collection Container/Tube: Red top Submission Container/Tube: Amber vial (T192) Specimen Volume: 0.5 mL Collection Instructions:
Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80346; G0480 (if appropriate);

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**CLU 8531**

**Chloride, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 82436

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**CLBF 8470**

**Chloride, Body Fluid**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: 1. Centrifuge to remove any cellular material. 2. Indicate specimen source. Additional Information: For spinal fluid, see CLSF / Chloride, Spinal Fluid.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid Refrigerated 7 days

**CPT Code Information:** 82438

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**RCHLU 83747**

**Chloride, Random, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
Chloride, Serum

Specimen Requirements: Collection Container/Tube: Preferred: Serum gel Acceptable: Red top
Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 30 days

CPT Code Information: 82436

Chloride, Spinal Fluid

Specimen Requirements: Container/Tube: Sterile vial Specimen Volume: 1 mL

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
CSF Refrigerated (preferred) 7 days
Frozen 30 days

CPT Code Information: 82435

Chlorpromazine (Thorazine)

Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80342

Chocolate/Cacao IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 7 days  

**CPT Code Information:** 86001

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**Cholecystokinin (CCK)**

**Specimen Requirements:** Container/Tube: Special tube containing G.I. preservative (MML Supply T125)  
Specimen Volume: 3 mL  
Collection Instructions: 1. Patient should fast for 10 to 12 hours prior to collection. 2. Collect 10 mL of blood in special tube. 3. Specimen should be separated immediately and plasma frozen as soon as possible.  
Additional Information: Antacid medications and medications that affect intestinal motility should be discontinued, if possible, for at least 48 hours prior to collection.

**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
GI Plasma Frozen 30 days  

**CPT Code Information:** 83519

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**Cholesterol, Body Fluid**

**Specimen Requirements:** Collection Container/Tube: Sterile container Submission Container/Tube: Plastic vial  
Specimen Volume: 1 mL  
Collection Instructions: Centrifuge to remove any cellular material.

**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Body Fluid Frozen (preferred) 30 days  
Refrigerated 7 days  
Ambient 24 hours  

**CPT Code Information:** 84311-Spectrophotometry, analyte not specified (cholesterol)

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**Cholesterol, High-Density Lipoprotein (HDL), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top  
Specimen Volume: 0.5 mL  
Collection Instructions: 1. Serum gel tube must be centrifuged within 2 hours of draw time. 2. Red-top tube must be centrifuged and aliquoted within 2 hours of draw time.

**Specimen Minimum Volume:** 0.25 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 7 days
**CHOL**

**Cholesterol, Total, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 83718

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**CHLE**

**Cholesteryl Esters, Serum**

**Specimen Requirements:** Patient Preparation: 1. Fasting-overnight (12-14 hours). 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 82465

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**FCNAB**

**Chromatin (Nucleosomal) Antibody**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
- Frozen 30 days
- Ambient 4 days

**CPT Code Information:** 84311

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**CROMU**

**Chromium for Occupational Monitoring, Urine**

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Specimen Requirements: Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 82495 Chromium, Concentration; 82570 Creatinine Concentration;

CRU
8593

Chromium, 24 Hour, Urine
Specimen Requirements: Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections. 3. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 82495

CRWB
65601

Chromium, Blood
Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Collection Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: 1 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Whole blood Refrigerated (preferred) 28 days
CPT Code Information: 82495

**Chromium, Random, Urine**

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container
Submission Container/Tube: Plastic, 6 mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert
Specimen Volume: 2 mL
Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
Additional Information: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 28 days

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CPT Code Information: 82495

**Chromium, Serum**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.
Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1.6 mL
Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days

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CPT Code Information: 82495
Chromogenic Factor IX Activity Assay, Plasma

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. 3. Freeze within 4 hours of collection. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85130

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Chromogenic Factor VIII Activity Assay, Plasma

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. 3. Freeze within 4 hours of collection. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85130

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Chromogranin A, Serum

**Specimen Requirements:** Patient Preparation: Proton pump inhibitor drugs should be discontinued for at least 2 weeks before collection. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic screw-top aliquot tube Specimen Volume: 0.5 mL Collection Information: Spin down and remove serum from clot. Do not submit in original tube.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**

Serum Frozen 365 days

**CPT Code Information:** 86316

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Chromogranin Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;  

**Chromosomal Microarray (CMA) Familial Testing, FISH**

**Specimen Requirements:** Specimen Type: Whole blood Container/Tube: Green top (sodium heparin) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Additional Information: Provide the name of the child (originally tested family member) on the request form. If testing was performed outside of Mayo Medical Laboratories, consultation with the laboratory is required prior to ordering this test.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole blood  
Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88273 w/modifier 52-Chromosomal in situ hybridization, less than 10 cells (if appropriate); 88273-Chromosomal in situ hybridization, 10-30 cells (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 – Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);  

**Chromosomal Microarray, Autopsy, Products of Conception, or Stillbirth**

**Specimen Requirements:** Submit only 1 of the following specimens: Supplies: Hank's Solution (T132) Specimen Type: Products of conception or stillbirth Container/Tube: Sterile container with sterile Hank's solution (T132), Ringer's solution, or normal saline Specimen Volume: 1 cm(3) of placenta (including 50-mg chorionic villi) and 1 cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: 1. Attempt to identify and send only fetal tissue for analysis. 2. If a fetus cannot be specifically identified, collect 50-mg villus material or tissue that appears to be of fetal origin. 3. If multiple specimen types are sent, send each specimen in a separate container. Multiple specimens received (eg, placenta and fetal thigh) will be ordered under 1 test. All specimens will be processed separately. Additional Information: 1. Do not send entire fetus. 2. While fresher specimens prepared as described above are preferred, we can attempt analysis on specimens that have been in less-than-ideal conditions. Supplies: Hank's Solution (T132) Specimen Type: Autopsy Container/Tube: Sterile container with sterile Hank's solution (T132), Ringer's solution, or normal saline Specimen Volume: 1 cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis. Supplies: Refrigerate/Ambient Mailer, 5 lb (T329) Specimen Type: Amniotic fluid Container/Tube:
Amniotic fluid container Specimen Volume: 20-30 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. Provide gestational age at the time of amniocentesis. 2. Discard the first 2 mL of amniotic fluid. 3. Place the tubes in a Refrigerate/Ambient Mailer, 5 lb (T329). 4. Fill remaining space with packing material. Additional Information: 1. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 2. Bloody specimens are undesirable. 3. Results will be reported and also telephoned or faxed, if requested. Supplies: CVS Media (RPMI) and Small Dish (T095) Specimen Type: Chorionic villus Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 50 mg Collection Instructions: 1. Collect chorionic villus specimen (CVS) by transabdominal or transcervical method. 2. Transfer CVS to a Petri dish containing transport medium (such as CVS Media [RPMI] and Small Dish [T095]). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of villi and remove any blood clots and maternal decidua. Acceptable Specimen Type: Cultured cells Container/Tube: T25 flasks with culture media Specimen Volume: 2 T25 flasks Supplies: Hank Solution (T132) Specimen Type: Tissue Container/Tube: In sterile Hank's solution (T132)

Specimen Minimum Volume: Chorionic Villus: 10 mg Muscle-Fascia: 1 cm(3)

Transport Temperature:

Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 81229

CMAMT 62667 Chromosomal Microarray, Autopsy/Products of Conception/Stillbirth, Tissue

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Tissue Container/Tube: Formalin-fixed, paraffin-embedded block containing fetal or placental (including chorionic villi) tissue. Additional Information: A pathology report and reason for referral must be submitted with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Specimen Type: Slides Specimen Volume: 6 consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

Specimen Minimum Volume: Formalin-fixed, paraffin-embedded tissue block Five consecutive, unstained slides and 1 hematoxylin and eosin-stained slide

Transport Temperature:

Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 81229

CMACB 35247 Chromosomal Microarray, Congenital, Blood

Specimen Requirements: This test requires 2 blood specimens: 1 sodium heparin and 1 EDTA. Specimen Type: Whole blood Container/Tube: Green top (sodium heparin) and lavender top (EDTA) Specimen Volume: 3 mL EDTA tube and 4 mL sodium heparin tube Collection Instructions: 1. Invert several times to mix blood. 2. Send specimens in original tubes. Additional Information: As a participant in the International Standard Cytogenomic Array Consortium, patients may request to opt-out. See Chromosomal Microarray Testing and the ISCA Consortium Database patient education flyer under
Special Instructions.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Whole blood Ambien (preferred)
Refrigerated

**CPT Code Information:** 81229

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CMAH

**Chromosomal Microarray, Hematologic Disorders**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Submit only 1 of the following specimens:
- **Specimen Type:** Bone marrow
  - **Container/Tube:** Green top (sodium heparin)
  - **Specimen Volume:** 1-2 mL
  - **Collection Instructions:** 1. Invert several times to mix bone marrow. 2. If sodium heparin is not available, EDTA is acceptable.
- **Specimen Type:** Whole blood
  - **Container/Tube:** Green top (sodium heparin)
  - **Specimen Volume:** 7-10 mL
  - **Collection Instructions:** 1. Invert several times to mix blood. 2. If sodium heparin is not available, EDTA is acceptable.

**Specimen Minimum Volume:** Blood: 2 mL; Bone Marrow: 1 mL

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:** 81406

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CMAP

**Chromosomal Microarray, Prenatal, Amniotic Fluid/Chorionic Villus Sampling**

**Specimen Requirements:** Submit only 1 of the following specimens:
- **Supplies:** CVS Media (RPMI) and Small Dish (T095)
- **Specimen Type:** Chorionic villi
  - **Container/Tube:** 15-mL tube containing 15-mL of transport media
  - **Specimen Volume:** 20-30 mg
  - **Collection Instructions:** 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer chorionic villi to a Petri dish containing transport medium (Such as CVS Media [RPMI] and Small Dish [T095]). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua.
  - **Supplies:** Refrigerate/Ambient Mailer, 5 lb (T329)
- **Specimen Type:** Amniotic fluid
  - **Container/Tube:** Amniotic fluid container
  - **Specimen Volume:** 20-30 mL
  - **Collection Instructions:** 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. Provide gestational age at the time of amniocentesis. 2. Discard the first 2 mL of amniotic fluid. 3. Place the tubes in a Refrigerate/Ambient Mailer, 5 lb (T329). 4. Fill remaining space with packing material.
- **Additional Information:** 1. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 2. Bloody specimens are undesirable. 3. Results will be reported and also telephoned or faxed, if requested.

**Specimen Minimum Volume:** Amniotic Fluid: 12 mL; Chorionic Villi: 12 mg; If ordering in conjunction with other testing: If ordered with PADF: 14 mL or 14 mg; with CHRAF: 24 mL; with CHRCV: 24 mg; with PADF and CHRAF/CHRCV: 26 mL or 26 mg

**Transport Temperature:**
CPT Code Information: 81229

CMAPT
35901
Chromosomal Microarray, Tumor, Formalin-Fixed Paraffin-Embedded

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Tissue Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Specimen Type: Slides Specimen Volume: 10 Consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

Specimen Minimum Volume: See Specimen Required

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 81406

CMAT
35900
Chromosomal Microarray, Tumor, Fresh or Frozen using Affymetrix Cytoscan HD

Specimen Requirements: Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Include pathology reports, if available. Submit only 1 of the following specimens: Specimen Type: Tumor biopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 0.5-3 cm(3) or larger Specimen Type: Lymph node Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline. Specimen Volume: 1 cm(3) Specimen Type: Skin biopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline. Specimen Volume: 4-mm diameter Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis.

Specimen Minimum Volume: Tumor Biopsy: 3 cm(3)/Lymph Node: 1 cm(3)/Skin Biopsy: 4 mm diameter

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 81406

CHRAF
35243
Chromosome Analysis, Amniotic Fluid
**Specimen Requirements:** Supplies: Refrigerate/Ambient Mailer, 5 lb (T329) Specimen Type: Amniotic fluid Submission Container/Tube: Centrifuge tube Specimen Volume: 20-25 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. 2. Discard the first 2 mL of amniotic fluid. 3. Place the tubes in a Refrigerate/Ambient Mailer, 5 lb (T329). 4. Fill remaining space with packing material. Additional Information: 1. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 2. If the specimen does not grow in culture, you will be notified within 7 days of receipt. 3. Bloody specimens are undesirable. Supplies: Refrigerate/Ambient Mailer, 5 lb (T329) Specimen Type: Fetal body fluid Container/Tube: Sterile tube Specimen Volume: Entire specimen Collection Instructions: 1. Place the tubes in a Refrigerate/Ambient Mailer, 5 lb (T329). 2. Fill remaining space with packing material. Additional Information: 1. If the specimen does not grow in culture, you will be notified within 7 days of receipt. 2. Clearly indicate on tube and paperwork that specimen is fetal body fluid.

**Specimen Minimum Volume:** Amniotic Fluid: 12 mL; Fetal Body Fluid: NA; If ordering in conjunction with other testing: If ordered with PADF: 14 mL, with CMAP: 24 mL, with PADF and CMAP: 26 mL

**Transport Temperature:**
- Amniotic Fld Refrigerated (preferred)
- Ambient

**CPT Code Information:** 88235, 88291-Tissue culture for amniotic fluid or chorionic villus cells, Interpretation and report; 88269 w/modifier 52-Chromosome analysis, in situ for amniotic fluid cells, <6 colonies, 1 karyotype with banding (if appropriate); 88269-Chromosome analysis, in situ for amniotic fluid cells, 6 or greater colonies, 1 karyotype with banding (if appropriate); 88267, 88285-Chromosome analysis, amniotic fluid or chorionic villus, greater than 15 cells, 1 karyotype with banding (if appropriate); 88267 w/modifier 52-Chromosome analysis, amniotic fluid or chorionic villus, <15 cells, 1 karyotype with banding (if appropriate);

**CHRPC 35315**

**Chromosome Analysis, Autopsy, Products of Conception, or Stillbirth**

**Specimen Requirements:** Preferred: Supplies: Hank's Solution (T132) Specimen Type: Products of conception or stillbirth Container/Tube: Sterile container with sterile Hank's solution (T132), Ringer's solution, sterile RPMI transport media, or normal saline Specimen Volume: 1 cm(3) of placenta (including 50-mg chorionic villi) and 1 cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: If a fetus cannot be specifically identified, collect 50-mg villus material or tissue that appears to be of fetal origin. Additional Information: 1. Do not send entire fetus. 2. While fresher specimens prepared as described above are preferred, we can attempt analysis on specimens that have been in less-than-ideal conditions. Acceptable: Supplies: Hank's Solution (T132) Specimen Type: Autopsy Container/Tube: Sterile container with sterile Hank's solution (T132), Ringer's solution, sterile RPMI transport media, or normal saline Specimen Volume: 1 cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis. Alternate: Supplies: CVS Media (RPMI) and Small Dish (T095) Specimen Type: Chorionic villus Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 50 mg Collection Instructions: 1. Collect chorionic villus specimen (CVS) by transabdominal or transcervical method. 2. Transfer CVS to a Petri dish containing transport medium (Such as CVS Media (RPMI) and Small Dish [T095]). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of villi and remove any blood clots and maternal decidua.

**Specimen Minimum Volume:** Chorionic Villus: 10 mg; Muscle-Fascia: 1 cm(3)

**Transport Temperature:**
CHRBF
Chromosome Analysis, Body Fluid

Specimen Requirements: Provide a reason for referral and the specimen source with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Container/Tube: Sterile container Specimen Volume: 25-50 mL Collection Instructions: Collect specimen in a sterile syringe. Additional Information: Advise Express Mail or equivalent, if not on courier service.

Specimen Minimum Volume: 20 mL

Transport Temperature:
Body Fluid Refrigerated
(preferred)
Ambient

CPT Code Information: 88239, 88291- Tissue culture for tumor, Interpretation and report; 88264 w/modifier 52-Chromosome analysis less than 20 cells (if appropriate); 88264-Chromosome analysis with 20 to 25 cells (if appropriate); 88264, 88285-Chromosome analysis with greater than 25 cells (if appropriate); 88283-Additional specialized banding technique (if appropriate);

CHRCV
Chromosome Analysis, Chorionic Villus Sampling

Specimen Requirements: Supplies: CVS Media (RPMI) and Small Dish (T095) Source: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20-30 mg Collection Instructions: 1. Collect chorionic villus specimen (CVS) by the transabdominal or transcervical method. 2. Transfer the CVS to a Petri dish containing transport medium (Such as CVS Media (RPMI) and Small Dish [T095]). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua.

Specimen Minimum Volume: 12 mg; If ordering in conjunction with other testing: If ordered with PADF: 14 mg; with CMAP: 24 mg; with PADF and CMAP: 26 mg

Transport Temperature:
Tissue Refrigerated
(preferred)
Ambient

CPT Code Information: 88235, 88291- Tissue culture for amniotic fluid or chorionic villus cells, Interpretation and report; 88267 w/modifier 52-Chromosome analysis, amniotic fluid or chorionic villus, <15 cells, 1 karyotype with banding (if appropriate); 88267-Chromosome analysis, amniotic fluid or chorionic villus, 15 cells, 1 karyotype with banding (if appropriate); 88267, 88285-Chromosome analysis, amniotic fluid or chorionic villus, <15 cells, 1 karyotype with banding (if appropriate);
Chromosome Analysis, Congenital Disorders, Blood

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. 3. Label specimen as whole blood. Specimen Type: Cord whole blood Container/Tube: Green top (sodium heparin) Specimen Volume: As much as possible Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. 3. Label specimen as cord blood.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Whole blood Ambient (preferred)
- Refrigerated

**CPT Code Information:**
- 88230, 88291- Tissue culture for Lymphocytes, Interpretation and report;
- 88262 w/modifier 52-Chromosome analysis less than 15 cells (if appropriate); 88262-Chromosome analysis with 15 to 20 cells (if appropriate); 88262, 88285-Chromosome analysis with greater than 20 cells (if appropriate); 88280-Chromosome analysis, greater than 2 karyotypes (if appropriate); 88283-Additional specialized banding technique (if appropriate); ;

Chromosome Analysis, Congenital Disorders, Fixed Cells

**Specimen Requirements:** Provide a reason for referral and specimen type with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Specimen Volume: 2 mL Additional Information: Advise Express Mail or equivalent if not on courier service.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Fixed Cell Pellet Blood Ambient (preferred)
- Refrigerated

**CPT Code Information:**
- 88291; 88262-w/modifier 52 (if appropriate); 88262-(if appropriate); 88262, 88285-(if appropriate); 88280-(if appropriate); 88283-(if appropriate);

Chromosome Analysis, Hematologic Disorders, Blood

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Container/Tube: Green top (sodium heparin) Specimen Volume: 5-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Additional Information: Advise Express Mail or equivalent if not on courier service.

**Specimen Minimum Volume:** 3 mL
**Transport Temperature:**
Whole blood  Ambient  (preferred)
Refrigerated

**CPT Code Information:** 88237, 88291 - Tissue culture for neoplastic disorders; bone marrow, blood, Interpretation and report; 88264 w/ modifier 52 - Chromosome analysis with less than 20 cells (if appropriate); 88264 - Chromosome analysis with 20 to 25 cells (if appropriate); 88264,88285 - Chromosome analysis with greater than 25 cells (if appropriate); 88283 - Additional specialized banding technique (if appropriate); ; ;

**CHRBM** 35245  
**Chromosome Analysis, Hematologic Disorders, Bone Marrow**  
**Specimen Requirements:** Container/Tube: Green-top (sodium heparin) Specimen Volume: 2-3 mL Collection Instructions: 1. It is preferable to send the first aspirate from the bone marrow collection. 2. Invert several times to mix bone marrow. 3. Other anticoagulants are not recommended and are harmful to the viability of the cells.  
**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:**  
Bone Marrow  Ambient  (preferred)  
Refrigerated  

**CPT Code Information:** 88237, 88291 - Tissue culture for neoplastic disorders; bone marrow, blood, Interpretation and report; 88264 w/ modifier 52 - Chromosome analysis with less than 20 cells (if appropriate); 88264 - Chromosome analysis with 20 to 25 cells (if appropriate); 88264,88285 - Chromosome analysis with greater than 25 cells (if appropriate); 88283 - Additional specialized banding technique (if appropriate); ;

**CHFXH** 64922  
**Chromosome Analysis, Hematologic Disorders, Fixed Cells**  
**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Specimen Volume: 2 mL Additional Information: Advise Express Mail or equivalent if not on courier service.  
**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Varies Ambient  (preferred)  
Refrigerated  

**CPT Code Information:** 88291; 88264 w/modifier 52 (if appropriate); 88264 (if appropriate); 88264, 88285 (if appropriate); 88283 (if appropriate);

**CHRLN** 35309  
**Chromosome Analysis, Lymphoid Tissue**  
**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will
not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Include pathology reports, if available. Preferred: Lymphoid tissue Acceptable: Spleen, extranodal tissue Container/Tube: Sterile container with sterile Hank’s balanced salt solution (T132), Ringer’s solution, or normal saline Specimen Volume: 1 cm(3) Additional Information: 1. Advise Express Mail or equivalent if not on courier service. 2. Spleen tissue or extranodal tissue may be submitted when a lymphomatous disorder is believed to involve these tissues.

**Specimen Minimum Volume:** 0.5 cm(3)

**Transport Temperature:**
- Tissue Refrigerated (preferred)
- Ambient

**CPT Code Information:** 88239, 88291- Tissue culture for tumor, Interpretation and report; 88264 w/modifier 52-Chromosome analysis <20 cells (if appropriate); 88264-Chromosome analysis with 20 to 25 cells (if appropriate); 88264, 88285- Chromosome analysis with >25 cells (if appropriate); 88283-Additional specialized banding technique (if appropriate);
Transport Temperature:
Whole blood  Ambient  
(preferred)
Refrigerated

CPT Code Information: 88230, 88291- Tissue culture for Lymphocytes, Interpretation and report; 88245 w/modifier 52: Chromosome analysis for breakage syndromes, less than 20 cells (if appropriate); 88245 - Chromosome analysis for breakage syndromes, 20-25 cells (if appropriate); 88245, 88285 - Chromosome analysis for breakage syndromes, more than 25 cells (if appropriate); 

CHRTI
35250

Chromosome Analysis, Skin Biopsy
Specimen Requirements: Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Container/Tube: Sterile container with sterile RPMI transport media, Ringer's solution, or normal saline-RPMI transport media (T095-Petri dish is not needed for this test). Specimen Volume: 4 mm diameter Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis. Additional Information: Advise Express Mail or equivalent if not on courier service.

Specimen Minimum Volume: 4-mm punch biopsy

Transport Temperature:
Tissue Refrigerated  
(preferred)  
Ambient

CPT Code Information: 88233, 88291- Tissue culture for skin/biopsy, Interpretation and report; 88262 w/modifier 52-Chromosome analysis less than 15 cells (if appropriate); 88262-Chromosome analysis with 15 to 120 cells (if appropriate); 88262, 88285-Chromosome analysis with greater than 20 cells (if appropriate); 88280-Chromosome analysis, greater than 2 karyotypes (if appropriate); 88283-Additional specialized banding technique (if appropriate); 

CHRST
35320

Chromosome Analysis, Solid Tumors
Specimen Requirements: Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Include pathology reports, if available. Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 0.5-3 cm(3) or larger Additional Information: Advise Express Mail or equivalent if not on courier service.

Specimen Minimum Volume: 0.5 cm(3)

Transport Temperature:
Tissue Refrigerated  
(preferred)  
Ambient

CPT Code Information: 88239, 88291- Tissue culture for tumor, Interpretation and report; 88264 w/modifier 52-Chromosome analysis <20 cells (if appropriate); 88264-Chromosome analysis with 20 to
Chronic Hepatitis (Unknown Type)

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 3 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 2.75 mL

**Transport Temperature:**
Serum SST Frozen (preferred) 30 days
Refrigerated 5 days

**CPT Code Information:** 86704; 86706; 86803; 87340; 87341 (if appropriate); 87522 (if appropriate);

Chronic Hepatitis Profile (Type B)

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2.5 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Serum SST Frozen (preferred)
Refrigerated 7 days
Ambient 24 hours

**CPT Code Information:** 86707; 87340; 87350; 87341 (if appropriate);

Chronic Lymphocytic Leukemia (CLL) Monitoring Minimal Residual Disease (MRD) Detection, Varies

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: Sodium heparin, EDTA Specimen Volume: 10 mL Slides: Include 5- to 10-unstained blood smears, if possible. Collection Instructions: Do not transfer blood to other containers. Specimen Type: Bone Marrow Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: Sodium heparin, EDTA Specimen Volume: 1-5 mL Slides: Include 5- to 10-unstained bone marrow aspirate smears, if possible. Collection Instructions: 1. Submission of bilateral specimens in not required. 2. Label specimen appropriately (bone marrow)

**Specimen Minimum Volume:** Blood: 4 mL Bone Marrow: 1 mL

**Transport Temperature:**
Varies Ambient (preferred) 72 hours
Refrigerated 72 hours
**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each); 88187-Flow Cytometry Interpretation, 2 to 8 markers;

**CLLF 35266**

**Chronic Lymphocytic Leukemia (CLL), FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**CHUB 82822**

**Chub Mackerel, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**CSU 81980**

**Chyluria Screen**

**Specimen Requirements:** Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 15 mL Collection Instructions: 1. Collect a first-morning, random urine collection. 2. Patient should collect
specimen prior to eating foods rich in vitamin C or taking vitamin C supplements. Additional Information: Indicate patient’s age and sex.

**Specimen Minimum Volume:** 15 mL

**Transport Temperature:**
- Urine Frozen (preferred) 10 days
- Refrigerated 10 days

**CPT Code Information:** 82664-Electrophoretic technique, not elsewhere specified; 84311-SP, analyte not elsewhere specified; 84478-Triglycerides;

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### CHYM

**82609**

**Chymopapain, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
- Specimen Volume: 0.5 mL for each 5 allergens requested
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For one allergen: 0.3 mL; For more than one allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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### FCHYS

**57806**

**Chymotrypsin, Stool**

**Specimen Requirements:** Collect 1 gm random stool in sterile leak proof container, ship refrigerate. Note: Dietary restrictions: Patients receiving pancreatic enzymes should discontinue taking the enzymes at least 5 days before the collection of the stool sample.

**Specimen Minimum Volume:** 0.5 gram

**Transport Temperature:**
- Fecal Refrigerated (preferred) 14 days
- Frozen 30 days

**CPT Code Information:** 84311

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### FCING

**57676**

**Cinnamon IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
- Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
**CINN 82624**

**Cinnamon, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86001

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**FCIC 91497**

**Circulating Immune Complexes (CIC)**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s) or a serum gel tube(s). Spin down and send 3 mL of serum refrigerated.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 14 days

**CPT Code Information:** 86003

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**CTCBC 35323**

**Circulating Tumor Cells (CTC) for Breast Cancer by CellSearch, Blood**

**Specimen Requirements:** Supplies: Circulating Tumor Cell Collection Kit (T630) Container/Tube: CellSave tubes only Specimen Volume: Two 10-mL tubes Collection Instructions: 1. Use the Circulating Tumor Cell Collection Kit (T630) 2. Collect whole blood in 2 CellSave, 10-mL tubes. 3. Collect a minimum of 7.5 mL of whole blood into each tube. 4. Immediately gently invert each tube 8 times. 5. Send specimen on same day of draw.

**Specimen Minimum Volume:** 7.5 mL

**Transport Temperature:** Whole blood Ambient 4 days

**CPT Code Information:** 86152-Cell enumeration using immunologic selection and identification in fluid specimen (eg, circulating tumor cells in blood); 86153-Cell enumeration using immunologic selection and identification in fluid specimen (eg, circulating tumor cells in blood); physician
Circulating Tumor Cells (CTC) for Colorectal Cancer by CellSearch, Blood

**Specimen Requirements:** Supplies: Circulating Tumor Cell Collection Kit (T630)
Container/Tube: CellSave tubes only
Specimen Volume: Two 10-mL tubes
Collection Instructions: 1. Use the Circulating Tumor Cell Collection Kit (T630) 2. Collect whole blood in 2 CellSave, 10-mL tubes. 3. Collect a minimum of 7.5 mL of whole blood into each tube. 4. Immediately gently invert each tube 8 times. 5. Send specimen on same day of draw. Additional Information: Tubes cannot be combined; each tube must contain at least 7.5 mL.

**Specimen Minimum Volume:** 7.5 mL

**Transport Temperature:** Whole blood Ambient 4 days

**CPT Code Information:** 86152-Cell enumeration using immunologic selection and identification in fluid specimen (eg, circulating tumor cells in blood); 86153-Cell enumeration using immunologic selection and identification in fluid specimen (eg, circulating tumor cells in blood); physician interpretation and report when required;

Circulating Tumor Cells (CTC) for Prostate Cancer by CellSearch, Blood

**Specimen Requirements:** Supplies: Circulating Tumor Cell Collection Kit (T630)
Container/Tube: CellSave tubes only
Specimen Volume: Two 10-mL tubes
Collection Instructions: 1. Use the Circulating Tumor Cell Collection Kit (T630) 2. Collect whole blood in 2 CellSave, 10-mL tubes. 3. Collect a minimum of 7.5 mL of whole blood into each tube. 4. Immediately gently invert each tube 8 times. 5. Send specimen on same day of draw. Additional Information: Tubes cannot be combined; each tube must contain at least 7.5 mL.

**Specimen Minimum Volume:** 7.5 mL

**Transport Temperature:** Whole blood Ambient 4 days

**CPT Code Information:** 86152-Cell enumeration using immunologic selection and identification in fluid specimen (eg, circulating tumor cells in blood); 86153-Cell enumeration using immunologic selection and identification in fluid specimen (eg, circulating tumor cells in blood); physician interpretation and report when required;

Citalopram, Serum

**Specimen Requirements:** Container/Tube: Red top
Specimen Volume: 0.5 mL
Collection Instructions: Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:** Serum Red Refrigerated (preferred) 14 days

Ambient 14 days
CPT Code Information: 80299

CITR
9329

Citrate Excretion, 24 Hour, Urine

Specimen Requirements: Patient Preparation: Any drug that causes alkalemia or acidemia may be expected to alter citrate excretion and should be avoided, if possible. Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Add 30 mL of toluene as preservative at start of collection or refrigerate specimen during and after collection. 2. Collect urine for 24 hours. 3. Mix well before taking 4-mL aliquot. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 82507

RCITR
84773

Citrate Excretion, Pediatric, Random, Urine

Specimen Requirements: Patient Preparation: Any drug that causes alkalemia or acidemia may be expected to alter citrate excretion and should be avoided, if possible. Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: A timed 24-hour collection is the preferred specimen for measuring and interpreting this urinary analyte. Random collections normalized to urinary creatinine may be of some clinical use in patients who cannot collect a 24-hour specimen, typically small children. Therefore, this random test is offered for children <16 years old.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 82507

FCAS
57807

Citric Acid, Serum

Specimen Requirements: Submit only one of the following: Serum Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial. Plasma Draw blood in a sodium heparin (green top), PPT potassium EDTA (white top), or EDTA (lavender top) tube(s). Spin down and send 2 mL of plasma refrigerated in a plastic vial.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Varies Refrigerated (preferred) 18 days
Frozen 30 days
CKP53 Protocol, Blood

**Specimen Requirements:** Only orderable as a reflex. For further information see test P53CA / Hematologic Neoplasms, TP53 Somatic Mutation, DNA Sequencing Exons 4-9.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole blood Ambient (preferred)
- Refrigerated

**CPT Code Information:** 82507

Cladosporium, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Clam, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Claudin-1 Immunostain, Technical Component Only

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred) Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**FCLCN**

**CLCN1 DNA Sequencing Test**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s) and send 8 mL of whole blood. Ship Ambient. Note: Collection date and informed consent are required.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**
Whole Blood EDTA Ambient (preferred) 10 days Refrigerated 10 days

**CPT Code Information:** 81406

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**FCLBZ**

**Clobazam, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days Frozen 180 days Ambient 72 hours

**CPT Code Information:** 80339

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**CLOM**

**Clomipramine, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 28 days
### Clonazepam and 7-Aminoclonazepam, Serum

**Specimen Requirements:**
- Container/Tube: Red top
- Specimen Volume: 1.2 mL
- Collection Instructions: 1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 14 days
- Frozen: 28 days
- Ambient: 72 hours

**CPT Code Information:** 80335 ; G0480 (if appropriate)

### Clonidine (Catapres)

**Specimen Requirements:**
- Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Varies: Refrigerated (preferred) 7 days
- Frozen: 180 days
- Ambient: 72 hours

**CPT Code Information:** 80346 and G0480 (if appropriate)

### Clostridioides (Clostridium) difficile Toxin, Molecular Detection, PCR, Feces

**Specimen Requirements:**
- This test is validated for formed stool, although testing formed stool for Clostridioides (Clostridium) difficile is generally not clinically indicated. The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by C difficile Toxin DNA is unlikely. Submit only 1 of the following specimens:
  - Preferred: Specimen Type: Preserved stool
    - Supplies: C and S Vial (T058)
    - Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of nonnutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S [T058])
    - Specimen Volume: Representative portion of stool; 5 mL
    - Collection Instructions: Collect fresh stool and submit 1 gram or 5 mL in container with transport medium. Place stool in preservative within 2 hours of collection.

**Specimen Stability Information:**
- Ambient (preferred) <7 days/ Refrigerated <7 days/ Frozen <7 days

**CPT Code Information:**
Unpreserved stool Supplies: Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635) Container/Tube: Stool container (T288) Specimen Volume: Representative portion of stool Collection Instructions: Collect fresh stool and submit representative sample in stool container. Specimen Stability Information: Refrigerated (preferred) <7 days/ Frozen <7 days

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Fecal Varies 7 days

**CPT Code Information:** 87493

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**CDIF**

**Clostridium difficile Culture**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Preserved stool Supplies: C and S Vial (T058); Stool Collection Kit, Random (T635) Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S [T058]) Specimen Volume: Representative portion of stool; 5 mL Collection Instructions: Collect fresh stool and submit 1 g or 5 mL in container with transport medium. Additional Information: Only diarrheal (ie, unformed) stool should be tested. Testing formed stool for Clostridium difficile is generally not clinically indicated. Specimen Stability Information: Ambient (preferred) 96 hours/Refrigerated 96 hours/Frozen 7 days Acceptable: Specimen Type: Unpreserved stool Supplies: Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635) Container/Tube: Stool container (T288) Specimen Volume: Representative portion of stool Collection Instructions: Collect fresh stool and submit representative sample in stool container. Additional Information: Only diarrheal (ie, unformed) stool should be tested. Testing formed stool for Clostridium difficile is generally not clinically indicated. Specimen Stability Information: Ambient (preferred) 72 hours/Frozen 7 days Specimen Type: Fresh tissue or biopsy Sources: Colon Container/Tube: Anaerobic transport vial (T588) Specimen Volume: Entire collection, 1-2 cm(3) Collection Instructions: Aseptically collect a 1-2 cm(3) piece of tissue whenever possible. In general, a larger piece of tissue is preferred. Specimen Stability Information: Ambient 72 hours

**Specimen Minimum Volume:** Stool: 1 g or 5 mL Tissue: 5 mm(3)

**Transport Temperature:**

Varies Varies

**CPT Code Information:** 87081-C. difficile Culture; 87076-Anaerobe Ident (if appropriate); 87076-Id MALDI-TOF Mass Spec Anaerobe (if appropriate); 87153-Anaerobe Ident by Sequencing (if appropriate);

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**CLOV**

**Clove, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

Frozen 90 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
CPT Code Information: 86003

**Clozapine, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL Additional Information: Therapeutic range (trough level) applies to specimens drawn immediately prior to next dose.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

CPT Code Information: 80159

**Clusterin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**cMET Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**CMV by PCR**

**Specimen Requirements:** 1 mL amniotic fluid shipped frozen.
Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Amniotic Fld Frozen 180 days

CPT Code Information: 87497

FDMZ
57859

CNBP DNA Test (DM2)

Specimen Requirements: Specimen Type: Whole Blood Container/Tube: Lavender top (EDTA)
Specimen Volume: 8 mL Collection Instructions: Send 8 mL whole blood (lavender-top) EDTA tubes
Note: Collection date is required.

Specimen Minimum Volume: 6 mL

Transport Temperature:
Whole blood Ambient (preferred) 10 days
Refrigerated 10 days

CPT Code Information: 81401; ;

CDS1
65565

CNS Demyelinating Disease Evaluation, Serum

Specimen Requirements: Patient Preparation: For optimal antibody detection, we recommend blood drawing the specimen before initiation of immunosuppressant medication. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL

Specimen Minimum Volume: 2 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 72 hours

CPT Code Information: 86255 X2; 86256 X2 (if appropriate);

F2
9121

Coagulation Factor II Activity Assay, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guideline for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at ≤ -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Patient must not be receiving Coumadin or heparin therapy. 3. Each coagulation assay requested should have its own vial. 4. If priority specimen, mark request form, give reason, and request a call-back. 5. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason we suggest ordering Coagulation Consultations.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Coagulation Factor II Inhibitor Screen, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Fasting preferred Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at -20°C or, ideally, < or =-40 degrees C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

Specimen Minimum Volume: 2 mL in 2 plastic vials, 1 mL each

Transport Temperature: Plasma Na Cit Frozen 14 days

CPT Code Information: 85210-Factor II; 85335-Factor inhibitor; 85335-Bethesda units (if appropriate);

Coagulation Factor IX Activity Assay, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Patient must not be receiving Coumadin or heparin therapy. 3. Each coagulation assay requested should have its own vial. 4. If priority specimen, mark request form, give reason, and request a call-back. 5. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason we suggest ordering Coagulation Consultations.

Specimen Minimum Volume: 0.5 mL

Transport Temperature: Plasma Na Cit Frozen 14 days

CPT Code Information: 85250

Coagulation Factor V Activity Assay, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Patient must not be receiving
Coumadin or heparin therapy. 3. Each coagulation assay requested should have its own vial. 4. If priority specimen, mark request form, give reason, and request a call-back. 5. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason we suggest ordering Coagulation Consultations.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85220

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**F5IS 7807**

**Coagulation Factor V Inhibitor Screen, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Fasting preferred Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at -20°C or, ideally -40°C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85220-Factor V; 85335-Factor inhibitor; 85335-Bethesda units (if appropriate);

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**F 7 9055**

**Coagulation Factor VII Activity Assay, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or = -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Patient must not be receiving Coumadin or heparin therapy. 3. Each coagulation assay requested should have its own vial. 4. If priority specimen, mark request form, give reason, and request a call-back. 5. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason we suggest ordering Coagulation Consultations.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85230

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**F7IS 7809**

**Coagulation Factor VII Inhibitor Screen, Plasma**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Fasting preferred. Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at -20°C or, ideally < or =-40 degrees C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

Specimen Minimum Volume: 2 mL in 2 plastic vials, 1 mL each

Transport Temperature:
Plasma Na Cit Frozen 14 days

CPT Code Information: 85230-Factor VII; 85335-Factor inhibitor; 85335-Bethesda units (if appropriate);

F8A 9070

Coagulation Factor VIII Activity Assay, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Patient must not be receiving Coumadin or heparin therapy. 3. Each coagulation assay requested should have its own vial. 4. If priority specimen, mark request form, give reason, and request a call-back. 5. Not offered for detection of hemophilia carrier. 6. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason, we suggest ordering Coagulation Consultations.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Plasma Na Cit Frozen 14 days

CPT Code Information: 85240

F8IS 7289

Coagulation Factor VIII Inhibitor Screen, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze specimens immediately at < or =-40 degrees C, if possible. 4. Send specimens in the same shipping container. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Coagulation Factor X Activity Assay, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial. 3. If priority specimen, mark request form, give reason, and request a call-back. 4. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason we suggest ordering Coagulation Consultations.

Specimen Minimum Volume: 0.5 mL

Transport Temperature: Plasma Na Cit Frozen 14 days

CPT Code Information: 85335

Coagulation Factor X Chromogenic Activity Assay, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial. 3. If priority specimen, mark request form, give reason, and request a call-back.

Specimen Minimum Volume: 0.5 mL

Transport Temperature: Plasma Na Cit Frozen 14 days

CPT Code Information: 85260

Coagulation Factor X Inhibitor Screen, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Information: Fasting preferred Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at -20°C or, ideally < or =-40 degrees C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature: Plasma Na Cit Frozen 14 days

CPT Code Information: 85260
**Specimen Minimum Volume:** 2 mL in 2 plastic vials, 1 mL each

**Transport Temperature:**
Plasma Na Cit  Frozen 14 days

**CPT Code Information:** 85260-Factor X; 85335-Factor inhibitor; 85335-Bethesda units (if appropriate);

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**Coagulation Factor XI Activity Assay, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Patient must not be receiving Coumadin or heparin therapy. 3. Each coagulation assay requested should have its own vial. 4. If priority specimen, mark request form, give reason, and request a call-back. 5. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason we suggest ordering Coagulation Consultations.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit  Frozen 14 days

**CPT Code Information:** 85270

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**Coagulation Factor XI Inhibitor Screen, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Fasting preferred Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at -20°C, or, ideally < or =-40 degrees C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 2 mL in 2 plastic vials, 1 mL each

**Transport Temperature:**
Plasma Na Cit  Frozen 14 days

**CPT Code Information:** 85270-Factor XI; 85335-Factor inhibitor; 85335-Bethesda units (if appropriate);

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**Coagulation Factor XII Activity Assay, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection
Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Patient must not be receiving Coumadin or heparin therapy. 3. Each coagulation assay requested should have its own vial. 4. If priority specimen, mark request form, give reason, and request a call-back. 5. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason we suggest ordering Coagulation Consultations.

**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85280

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**COU**  
80083  
**Cobalt, 24 Hour, Urine**  
**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections. 3. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Specimen Minimum Volume:** 0.4 mL  
**Transport Temperature:**  
Urine Refrigerated (preferred) 28 days  
Ambient 28 days  
Frozen 28 days

**CPT Code Information:** 83018

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**COWB**  
60355  
**Cobalt, Blood**  
**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Collection Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: 1 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.3 mL  
**Transport Temperature:**  
Whole blood Refrigerated (preferred) 28 days  
Ambient 28 days  
Frozen 28 days
**CPT Code Information:** 83018

### Cobalt, Random, Urine

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 2 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 83018

### Cobalt, Serum

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1.6 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 83018

### Cobalt/Creatinine Ratio, Random, Urine

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no
metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 83018 Cobalt Concentration; 82570 Creatinine Concentration;

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**FCOKE 75174**

**Cocaine Analysis - Whole Blood**

**Specimen Requirements:** Draw blood in a purple-top (EDTA), green-top (sodium-heparin) or grey-top (NaF/oxalate) tube(s). Send 7 mL of whole blood refrigerated in a plastic vial.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80307; 80353 ã€“ if applicable;

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**COKMX 62720**

**Cocaine and Metabolite Confirmation, Chain of Custody, Meconium**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required. Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: 1. Specimen that arrives with a broken seal does not meet the chain of custody requirements. 2. The laboratory recommends sending chain-of-custody specimens by overnight shipment.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)

**Transport Temperature:**
- Meconium Frozen (preferred) 21 days
  - Refrigerated 21 days
  - Ambient 72 hours

**CPT Code Information:** 80353; G0480 (if appropriate);

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**COKE 62719**

**Cocaine and Metabolite Confirmation, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen
containers, seals, and documentation required Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80353; G0480 (if appropriate);

### COKEU 9286

#### Cocaine and Metabolite Confirmation, Urine

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order COKEX / Cocaine and Metabolite Confirmation, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For more information, refer to ADULT / Adulterants Survey, Urine. 6. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80353; G0480 (if appropriate);

### COKEM 84140

#### Cocaine and Metabolites Confirmation, Meconium

**Specimen Requirements:** Supplies: Stool container. Small (Random), 4 oz (T288) Container/Tube: Stool container (T288) Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)

**Transport Temperature:**
- Meconium Frozen (preferred) 21 days
- Refrigerated 21 days
- Ambient 72 hours

**CPT Code Information:** 80353; G0480 (if appropriate);
**CoxiCoc 62079**  
**Coccidioides Antibody with Reflex, Serum**  
**Specimen Requirements:**  
Container/Tube: Preferred: Serum gel  
Acceptable: Red top  
Volume: 2 mL  
Specimen Minimum Volume: 1.7 mL  
Transport Temperature:  
Serum Refrigerated (preferred)  
Frozen  
14 days  
Serum  
Refrigerated  
14 days  
Frozen  
14 days  
CPT Code Information: 86635

**RSCOC 35928**  
**Coccidioides Antibody, Complement Fixation and Immunodiffusion, Serum**  
**Specimen Requirements:**  
This test is not orderable individually. It is reflexed when COXIS / Coccidioides Antibody with Reflex, Serum is positive.  
Specimen Minimum Volume: 1.2 mL  
Transport Temperature:  
Serum Refrigerated (preferred)  
Frozen  
14 days  
Serum  
Refrigerated  
14 days  
Frozen  
14 days  
CPT Code Information: 86635 x 3

**SCOC 8295**  
**Coccidioides Antibody, Serum**  
**Specimen Requirements:**  
Container/Tube: Preferred: Serum gel  
Acceptable: Red top  
Volume: 1.8 mL  
Specimen Minimum Volume: 1.2 mL  
Transport Temperature:  
Serum Refrigerated (preferred)  
Frozen  
14 days  
CPT Code Information: 86635 x 3

**CCOC 81542**  
**Coccidioides Antibody, Spinal Fluid**  
**Specimen Requirements:**  
Container/Tube: Sterile vial  
Volume: 2 mL  
Specimen Minimum Volume: 1.2 mL  
Transport Temperature:  
CSF Refrigerated (preferred)  
Frozen  
14 days  
CPT Code Information: 86635 x 3
Coccidioides immitis/posadasii, Molecular Detection, PCR

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Coccidioides species DNA is unlikely. Preferred Specimens: Body fluid, cerebrospinal fluid (CSF), ocular fluid, respiratory (eg, bronchoalveolar lavage [BAL], bronchial washing, sputum), fresh tissue, or bone. Acceptable Specimens: If no fresh specimen is available, digested respiratory specimens treated with N-acetyl-L-cysteine (NALC)/NaOH are acceptable (eg, bronchoalveolar lavage fluid, bronchial washing, respiratory fluid, sputum, or tracheal secretion). Submit only 1 of the following specimens:

- **Specimen Type:** Body fluid
- **Sources:** Body, ocular, or CSF
- **Container/Tube:** Sterile container
- **Specimen Volume:** 1 mL
- **Additional Information:** Only fresh, non-NALC/NaOH-digested body fluid is acceptable.

- **Specimen Type:** Respiratory Sources: BAL, bronchial washing, or sputum
- **Container/Tube:** Sterile container
- **Specimen Volume:** 1 mL if only PCR ordered or 3 mL if PCR ordered with smear and culture

Additional Information: Only fresh, non-NALC/NaOH-digested tissue is acceptable. Acceptable Specimen Type: NALC/NaOH-digested respiratory specimens Sources: Lavage fluid, bronchial washing, respiratory fluid, sputum, or tracheal secretion
- **Container/Tube:** Sterile container
- **Specimen Volume:** 2 mL

**Specimen Minimum Volume:** Body fluid: 0.5 mL; Respiratory specimen nondigested: 0.5 mL; Fresh tissue or bone: 5 mm; NALC-NaOH-digested specimen: 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 87798

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Coccidioides immitis/posadasii, Molecular Detection, PCR, Paraffin

**Specimen Requirements:** Specimen Type: Formalin-fixed, paraffin-embedded tissue Sources: Body tissue
- **Container/Tube:** Sterile container
- **Preferred:** Formalin-fixed, paraffin-embedded tissue (FFPE)
- **Acceptable:** Biopsy specimen of tissue fixed with formalin and embedded in a paraffin block
- **Specimen Volume:** 5 x 10 mm sections or 1 paraffin-embedded tissue block

Collection Instructions: Block must be sent for sectioning.

**Specimen Minimum Volume:** See Specimen Required.

**Transport Temperature:** See Specimen Required.

CPT Code Information: 87798

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Cockatiel Droppings IgE

CPT Code Information: 86635 x 3
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**FCKTF 57966**

**Cockatiel Feathers IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**CBUR 82802**

**Cocklebur, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**COCR 82693**

**Cockroach, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
**FCOCN** 57668

**Coconut IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86003

**CCNT** 82739

**Coconut, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**COD** 82889

**Codfish, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003
Coenzyme Q10, Reduced and Total, Plasma

**Specimen Requirements:** Patient Preparation: Fasting (8 hours) Collection Container/Tube: Green top (lithium or sodium heparin) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Immediately place specimen on wet ice. Maintain on wet ice and process within 3 hours of draw. 2. Spin down, separate plasma from cells, and immediately freeze specimen.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Plasma Heparin Frozen (preferred) 72 hours
- Refrigerated 8 hours

**CPT Code Information:** 82542

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Coenzyme Q10, Total, Plasma

**Specimen Requirements:** Patient Preparation: Fasting (8 hours) Collection Container/Tube: Green top (lithium or sodium heparin) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Immediately place specimen on wet ice. Maintain on wet ice and process within 3 hours of draw. 2. Spin down, separate plasma from cells, and immediately freeze specimen.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Plasma Heparin Frozen (preferred) 10 days
- Refrigerated 10 days

**CPT Code Information:** 82542

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Coffee (Coffea spp) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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Cold Agglutinin Titer, Serum

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Aliquot tube Specimen Volume: 4 mL Pediatric Volume: 1 mL Collections Instructions: 1. Use a warm pack to keep specimen at 37°C prior to and after collecting. 2. Allow specimens to clot at 37°C. 3. Centrifuge at 37°C and separate serum from red cells immediately after blood clots, or within one hour of collection. 4. Do not refrigerate prior to separation of serum from red cells.
**COLIV 70408**

**Collagen IV (COL4) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC; ; ;

**FFTYC 91496**

**Collagen Type II Antibodies**

**Specimen Requirements:** Container/Tube: Plain Red tube, SST tube is also acceptable. Specimen Volume: 3 mL Collection Instructions: Draw blood in a plain, red-top tube(s) or a serum-gel tube(s). Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 365 days
Ambient 7 days

**CPT Code Information:** 83520

**CRMWS 83107**

**Collapsin Response-Mediator Protein-5-IgG (CRMP-5-IgG) Western Blot, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL Additional Information: Include name, phone number, mailing address, and E-mail address (if applicable) of ordering physician.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
### CRMWC

**21747**

**Collapsin Response-Mediator Protein-5-IgG (CRMP-5-IgG) Western Blot, Spinal Fluid**

**Specimen Requirements:**
- **Specimen Volume:** 3 mL
- **Collection Instructions:** Send specimen refrigerated. Additional Information: Include name, phone number, mailing address, and E-mail address (if applicable) of ordering physician.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- CSF Refrigarated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 84182

### MITOT

**65212**

**Combined Mitochondrial Analysis, Mitochondrial Full Genome and Nuclear Gene Panel**

**Specimen Requirements:**
- **Patient Preparation:** A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL
- **Collection Instructions:** 1. Invert several times to mix blood. 2. Send specimen in original tube.
- **Specimen Stability Information:** Ambient (preferred)/Refrigerated
- **Supplies:** Fibroblast Biopsy Transport Media (T115)
- **Specimen Type:** Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks
- **Specimen Stability Information:** Ambient (preferred)/Refrigerated <24 hours
- **Supplies:** Muscle Biopsy Kit (T541)
- **Specimen Type:** Tissue biopsy Collection Instructions: Prepare and transport specimen per instructions in Muscle Biopsy Specimen Preparation Sheet in Special Instructions. Additional Information: Muscle Biopsy Shipping Kits (T541) are available. Specimen Volume: 10-80 mg
- **Specimen Stability Information:** Frozen (preferred)/Ambient/Refrigerated
- **Additional Information:** To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate.

**Specimen Minimum Volume:**
- Blood: 1 mL
- Tissue Biopsy: 200 mg

**Transport Temperature:**
- Blood: Varies
- Tissue Biopsy: Varies

**CPT Code Information:**
- 81460-Whole Mitochondrial Genome
- 81440-Nuclear Encoded Mitochondrial Genes;
**CMIL 82833**

**Common Millet, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**REED 82902**

**Common Reed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**CVID 87993**

**Common Variable Immunodeficiency Confirmation Flow Panel**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: < or =14 years: 4 mL >14 years: 10 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** < or =14 years: 3 mL >14 years: 5 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated 48 hours

**CPT Code Information:** 88184; 88185 x 2;

**CO4D 70407**

**Complement 4d (C4d, Comp 4d) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

### **C1Q**

#### Complement C1q, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: Fasting.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days
- Ambient 21 days
- Frozen 21 days

**CPT Code Information:** 86160

### **C3**

#### Complement C3, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 86160

### **C4**

#### Complement C4, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 86160
AH50 88676

**Complement, Alternate Pathway (AH50), Functional, Serum**

**Specimen Requirements:** Patient Preparation: Patient should be fasting. Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Freeze specimen within 30 minutes.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Red Frozen 14 days

**CPT Code Information:** 86161

COM 8167

**Complement, Total, Serum**

**Specimen Requirements:** Patient Preparation: Fasting preferred. Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Immediately freeze specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Frozen 14 days

**CPT Code Information:** 86162

AHUSP 64663

**Complement-Mediated Atypical Hemolytic-Uremic Syndrome (aHUS)/Thrombotic Microangiopathy (TMA) Gene Panel**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 4 days/Refrigerated 14 days Specimen Type: Blood spot Supplies: Card-Blood Spot Collection Filter Paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Whatman FTA Classic paper, Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient <1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required for culture.
required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred) 1 year/Ambient/Refrigerated

**Specimen Minimum Volume:** Whole blood: 1 mL

**Transport Temperature:**

Varies

**CPT Code Information:** 81479

**CCMGP**

**Comprehensive Cardiomyopathy Multi-Gene Panel, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**

Whole Blood EDTA Ambient

(preferred)

Refrigerated

**CPT Code Information:** 81439

**CMAMA**

**Comprehensive Metabolic Panel, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated 24 hours

**CPT Code Information:** KS-84132; NAS-84295; CL-82435; HCO3-82374; AGAP-NA; BUN-84520; CRTS1-82565; CA-82310; GLURA-82947; TP-84155; ALB-82040; AST-84450; ALP-84075; ALT-84460; BILIT-82247;

**CAH2T**

**Congenital Adrenal Hyperplasia (CAH) Newborn Screen, Blood Spot**

**Specimen Requirements:** Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood Spot Collection Card (T493) Acceptable: Local newborn screening card, Whatman 903 filter paper, Ahlstrom 226 filter paper, Munktell filter paper Specimen Volume: 2 Blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. Do not expose specimen to heat or direct sunlight. 3. Do not stack wet specimens. 4. Keep specimen dry. 5. Let blood dry on the filter paper at ambient temperature in a horizontal position for a minimum of 3 hours. Additional Information: 1. For collection instructions in Spanish, see Blood Spot
Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood spot: 1

**Transport Temperature:**
Whole blood  Ambient (preferred)  90 days
Frozen  90 days
Refrigerated  90 days

**CPT Code Information:** 82542

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**FFCAH 75305**

**Congenital Adrenal Hyperplasia (CAH) Pediatric Profile 6, Comprehensive Screen**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red Specimen Volume: 3.5 mL Collection Instructions: Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and separate within 1 hour of collection and send 3.5 mL of serum frozen in plastic vial.

**Specimen Minimum Volume:** 2 mL NOTE: Minimum volume does not allow for repeat analysis.

**Transport Temperature:**
Serum Red  Frozen  90 days

**CPT Code Information:** 82633/DOC; 82634/ 11-Desoxycortisol; 82157/Androstenedione; 82533/Cortisol; total; 82626/DHEA; 84143/17-OH-Pregnenolone; 84144/Progesterone; 83498/17-OH-Progesterone; 84403/Testosterone; 87815

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**CAH21 87815**

**Congenital Adrenal Hyperplasia (CAH) Profile for 21-Hydroxylase Deficiency**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred. 2. Include time of draw. Additional Information: If multiple specimens are drawn, send separate order for each specimen.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Red  Refrigerated (preferred)  14 days
Frozen  28 days
Ambient  7 days

**CPT Code Information:** 82157-Androstenedione; 82533-Cortisol; total; 83498-Hydroxyprogesterone, 17-d;

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**NGCDA 64924**

**Congenital Dyserythropoietic Anemia Sequencing, Varies**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood (preferred) Container/Tube: Preferred: Lavender top (EDTA) or Yellow top (ACD) Acceptable: Green top (heparin) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix
blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Refrigerated < or = 30 days. Specimen Type: Extracted DNA. Container/Tube: 1.5- to 2-mL. Specimen Volume: Entire specimen. Collection Instructions: 1. Indicate volume and concentration of the DNA. 2. Label specimen as extracted DNA and source of specimen. Specimen Stability: Frozen/Refrigerated/Ambient < or = 30 days.

**Specimen Minimum Volume:** Blood: 1 mL; Extracted DNA: 100 mcL at 20 ng/mcL concentration. **Transport Temperature:** Varies Varies.

**CPT Code Information:** 81350-UGT1A1 (UDP glucuronosyltransferase 1 family, polypeptide A1) (eg, irinotecan metabolism), gene analysis, common variants (eg, *28, *36, *37); 81364-Molecular pathology procedure, Level 5 (eg, analysis of 2-5 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of 6-10 exons, or characterization of a dynamic mutation disorder/triplet repeat by Southern blot analysis); 81479-Unlisted molecular pathology procedure;

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**Congenital Myasthenic Syndromes (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81406 x 2; 81407; 81479;

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**Congenital Myopathy Panel (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81404; 81406; 81407 x 4; 81408 x 2; 81479;

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**Congenital Neutropenia Primary Immunodeficiency (PID) Gene Panel**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 5 mL. Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Please note that for patients with severe neutropenia, DNA yield may be insufficient for testing. Consider sending additional volume or an alternate specimen type. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card-Blood Spot Collection Filter Paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Whatman FTA Classic paper, Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient <1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: Please note that for patients with severe neutropenia, DNA yield may be insufficient for testing. Consider sending additional volume or an alternate specimen type. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell
culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle’s minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Whole blood: 1 mL

**Transport Temperature:**

Varies Varies

**CPT Code Information:** 81406; 81408; 81479;

### CONGR

**Congo Red Stain (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test. Order MPCT / Muscle Pathology Consultation or MBCT / Muscle Biopsy Consultation, Outside Slides and/or Paraffin Blocks. The consultant will determine the need for special stains.

**Transport Temperature:**

Tissue Varies

**CPT Code Information:** 88314

### CTDC

**Connective Tissue Diseases Cascade, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86038-ANA; 86200-Cyclic citrullinated peptide antibodies, IgG; 83516-Centromere (if appropriate); 83516-Ribosome (if appropriate); 86225-ds-DNA Ab with Reflex (if appropriate); 86255-ds-DNA Ab by Crithidia IFA (if appropriate); 86235 x 6-RNP, Sm, SS-B, SS-A, Jo 1, and Scl 70 (if appropriate) ;

### COSPC

**Consult, Outside Slide (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies Ambient

(preferred)

Refrigerated
CRHPC 113329

Consult, w/Comp Rvw of His (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88321

CSPPC 113327

Consult, w/Slide Prep (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88325

CUPPC 113328

Consult, w/USS Prof (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88323

CPAPD 70329

Conventional Smear-Diagnostic

Specimen Requirements: Patient Preparation: For optimal interpretation, Papanicolaou smears should be collected near the middle of the menstrual cycle. No douching, lubricant use, or sexual intercourse for 24 hours prior to specimen collection. Container/Tube: Slide Specimen Volume: Circular scrape of cervical os Collection Instructions: 1. Specimen containers must be labeled with a minimum of 2 unique identifiers (patient's name, and medical record number or date of birth). Containers should also be labeled with specimen source, and date collected. 2. Glass slides may be labeled with a single unique identifier, but 2 identifiers are preferred. If multiple slides are submitted, each slide must have proper identification. Glass slides should be identified with the patient's name and a second patient identifier that is also on the accompanying paperwork (ie, medical record number or date of birth) 3. Fix slides immediately in 95% alcohol or treat with commercially available spray fixative.

Transport Temperature:
CPAPS 70331

Conventional Smear-Screen

Specimen Requirements: Patient Preparation: For optimal interpretation, Papanicolaou smears should be collected near the middle of the menstrual cycle. No douching, lubricant use, or sexual intercourse for 24 hours prior to specimen collection. Container/Tube: Slide Specimen Volume: Circular scrape of cervical os Collection Instructions: 1. Specimen containers must be labeled with a minimum of 2 unique identifiers (patient's name, and medical record number or date of birth). Containers should also be labeled with specimen source, and date collected. 2. Glass slides may be labeled with a single unique identifier, but 2 identifiers are preferred. If multiple slides are submitted, each slide must have proper identification. Glass slides should be identified with the patient's name and a second patient identifier that is also on the accompanying paperwork (ie, medical record number or date of birth) 3. Fix slides immediately in 95% alcohol or treat with commercially available spray fixative.

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: P3000; 88164; 88141-CVSPC (if appropriate);

CUU 8590

Copper, 24 Hour, Urine

Specimen Requirements: Patient Preparation: High concentrations of barium are known to interfere with this test. If barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container with no metal cap or glued insert Submission Container/Tube: Plastic urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 82525

CUT 6687

Copper, Liver Tissue

CPT Code Information: 82525
**Specimen Requirements:** Supplies: Metal Free Specimen Vial (T173) Container/Tube: Preferred: Mayo metal-free specimen vial (blue label) (T173) Acceptable: Paraffin block if no more than 1 or 2 cuts have been made to it for slides Specimen Volume: 2 mg Collection Instructions: 1. Two mg of liver tissue is required. This is typically a piece of tissue from a 22-gauge needle biopsy at least 2 cm long. If an 18-gauge needle is used, the tissue must be at least 1 cm in length. 2. Any specimen vial other than a Mayo metal-free vial used should be plastic, leached with 10% nitric acid for 2 days, rinsed with redistilled water, and dried in clean air. Additional Information: Paraffin blocks will be returned 3 days after analysis.

**Specimen Minimum Volume:** 2 cm (22-gauge needle), 1 cm (18-gauge needle), or 2 mm x 2 mm (punch) 0.3 mg by dry weight

**Transport Temperature:**
Liver Tissue Refrigerated (preferred)
Ambient
Frozen

**CPT Code Information:** 82525

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**Copper, Serum**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium, iodine, and barium are known to interfere with most metals tests. If gadolinium-, iodine, or barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: 6-mL Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 0.8 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

**CPT Code Information:** 82525

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**Copper/Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of barium are known to interfere with most metals tests. If barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace
Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Urine: Refrigerated (preferred) 28 days
- Ambient: 28 days
- Frozen: 28 days

**CPT Code Information:** 82525 Copper Concentration; 82570 Creatinine Concentration;

**Coriander, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum: Refrigerated (preferred) 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

**Corn IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 28 days
- Frozen: 365 days
- Ambient: 7 days

**CPT Code Information:** 86001

**Corn IgG4**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 28 days
- Frozen: 365 days
**Ambient** 7 days

**CPT Code Information:** 86001

**CRNP 82718**  
**Corn Pollen, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**CORN 82705**  
**Corn-Food, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**CORTC 88221**  
**Corticosterone, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Collection Instructions: Morning (8 a.m.) specimen is preferred.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 14 days

**CPT Code Information:** 82528
Cortisol, Free and Total, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.85 mL Collection Instructions: Morning (8 a.m.) specimens are preferred. The 8 a.m. cortisol can be referred to as the a.m. cortisol and can be drawn anywhere between 6 a.m. and 10:30 a.m. in the morning.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 28 days
- Ambient: 28 days
- Frozen: 28 days

**CPT Code Information:** 82530; 82533;

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Cortisol, Free, 24 Hour, Urine

**Specimen Requirements:** Supplies: Urine Tubes, 10-mL (T068) Submission Container/Tube: Plastic, urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 10 g of boric acid as preservative at start of collection. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine: Refrigerated (preferred) 14 days
- Frozen: 28 days
- Ambient: 7 days

**CPT Code Information:** 82530

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Cortisol, Free, Random, Urine

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine: Frozen (preferred) 28 days
  - Refrigerated: 14 days
  - Ambient: 7 days

**CPT Code Information:** 82530

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Cortisol, Free, Serum

**Specimen Requirements:** Container/Tube: Red top Preferred: Red top Specimen Volume: 1.25 mL Collection Instructions: Morning (8 a.m.) specimens are preferred. The 8 a.m. cortisol can be referred to as the a.m. cortisol and can be drawn anywhere between 6 a.m. and 10:30 a.m. in the morning.
morning.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82530

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**CIVC 6347**

**Cortisol, Inferior Vena Cava, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.5 mL Collection Instructions: Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred. Additional Information: 1. Include time of draw. 2. If multiple specimens are drawn, send separate order for each specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82533

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**CLAV 6346**

**Cortisol, Left Adrenal Vein, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.5 mL Collection Instructions: Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred. Additional Information: 1. Include time of draw. 2. If multiple specimens are drawn, send separate order for each specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82533

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**CRAV 6345**

**Cortisol, Right Adrenal Vein, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.5 mL Collection Instructions: Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred. Additional Information: 1. Include time of draw. 2. If multiple specimens are drawn, send separate order for each specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
SALCT 84225

**Cortisol, Saliva**

**Specimen Requirements:**
1. Do not brush teeth before collecting specimen.
2. Do not eat or drink for 15 minutes prior to specimen collection.

**Supplies:**
Cortisol, Saliva Collection Kit (T514)

**Container/Tube:**
SARSTEDT Salivette (T514)

**Specimen Volume:**
1.5 mL

**Collection Instructions:**
1. Collect specimen between 11 p.m. and midnight, and record collection time.
2. To use the Salivette:
   a. Remove top cap of container to expose swab.
   b. Place swab directly into mouth by tipping container so swab falls into mouth.
   c. Keep swab in mouth for approximately 2 minutes. Roll swab in mouth, do not chew swab.
   d. Place swab back into its container without touching, and replace the cap.
3. Record collection time, and send appropriately labeled Salivette to laboratory.

**Specimen Minimum Volume:**
0.6 mL

**Transport Temperature:**
- Saliva Refrigerated (preferred) 7 days
  - Frozen 60 days
  - Ambient 7 days

**CPT Code Information:**
82533

CORT 8545

**Cortisol, Serum**

**Specimen Requirements:**
Container/Tube: Preferred: Serum gel
Acceptable: Red top

**Specimen Volume:**
0.6 mL

**Collection Instructions:**
1. Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred.
2. Serum gel tubes should be centrifuged within 2 hours of collection.
3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:**
0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days

- Frozen 7 days

**CPT Code Information:**
82533

CINP 9369

**Cortisol, Serum, LC-MS/MS**

**Specimen Requirements:**
Container/Tube: Red top

**Specimen Volume:**
0.6 mL

**Collection Instructions:**
1. Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred.
2. Include time of draw.
3. If multiple specimens are drawn, send separate order for each specimen.
**Cortisol/Cortisone, Free, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10-mL (T068) Submission Container/Tube: Plastic, urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 10 g of boric acid as preservative at start of collection. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 82530-Cortisol; free; 82542;
CPT Code Information: 87081-Corynebacterium diphtheriae culture; 87077-Identification by MALDI-TOF mass spec (if appropriate); 87077-Additional identification procedure (if appropriate); 87153-Aerobe identification by sequencing (if appropriate);

**COTT**

**Cotton Fiber, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**CSED**

**Cottonseed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**CTWD**

**Cottonwood, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003
**Cow Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**COX2 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Coxiella burnetii (Q fever), Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Coxiella burnetii DNA is unlikely. Submit only 1 of the following specimens:
- Fresh tissue or biopsy Sources: Lung, bone, liver, heart valve, aorta, or endocardium Container/Tube: Sterile container Specimen Volume: Entire collection or 5 mm(3) Collection Instructions: Collect fresh tissue specimen.
- Paraffin-embedded tissue block Sources: Lung, bone, liver, heart valve, aorta, or endocardium Container/Tube: Sterile container for cut sections or Tissue Block Container (T553) Specimen Volume: Submit formalin-fixed, paraffin-embedded tissue block to be cut and returned. Alternately, perform cuts and place two to five 10-micron sections in a sterile container for submission Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Fresh tissue or biopsy: 5 mm(3) Paraffin-embedded tissue block: two 10-micron sections

**Transport Temperature:**
- Varies

**CPT Code Information:** 87798
**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Coxiella burnetii DNA is unlikely. Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot Specimen Volume: 1 mL Collection Instructions: Send specimen in original tube (preferred).

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

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**Coxiella burnetii (Q Fever), Molecular Detection, PCR, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: 5-mL red top Acceptable: Serum gel Submission Container/Tube: Sterile vial Specimen Volume: 1 mL Collection Instructions: 1. Serum-gel tubes should be centrifuged and aliquoted within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Additional Information: The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Coxiella burnetii DNA is unlikely.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 87798

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**CPOX Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in
Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL/Blood Spots: 3

**Transport Temperature:**
- Varies
- Varies

**CPT Code Information:** 81405-CPOX; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

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**FCRAB**

**Crab IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**CRAB**

**Crab, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**CRANB**

**Cranberry, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
CPT Code Information: 86003

**Crayfish, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**Creatine Disorders Panel, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 1 mL Collection Instructions: 1. Collect a random urine specimen. 2. Immediately freeze specimen. 3. If possible, do not send other tests ordered on same vial of urine. In doing so, the other tests may have increased turnaround time due to the strict frozen criteria of this assay.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Frozen 29 days

CPT Code Information: 82540-Creatine; 82570-Creatinine; 82542-Guanidinoacetate;

**Creatine Kinase (CK), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
  - Frozen 28 days
  - Ambient 48 hours

CPT Code Information: 82550

**Creatine Kinase Isoenzyme Reflex, Serum**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com

Page 317
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.75 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 28 days

CPT Code Information: 82550-CK, total; 82552-CK isoenzymes (If appropriate);

CRCL
113357

Creatinine Clearance, Serum and 24-Hour Urine

Specimen Requirements: Both serum and urine are required. Serum must be drawn within the same 24-hour period as the urine collection. Specimen Type: Serum Container/Tube: Red top or serum gel Specimen Volume: 1 mL Collection Instructions: Label specimen as serum. Specimen Type: Urine Supplies: Aliquot Tube, 5 mL (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. Label specimen as urine. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: Serum: 0.5 mL; Urine 1 mL

Transport Temperature:
Serum Refrigerated (preferred)
Frozen
Urine Refrigerated (preferred)
Ambient
Frozen

CPT Code Information: 82575

CRTS1
48216

Creatinine with Estimated GFR (CKD-EPI), Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 90 days

CPT Code Information: 82565

CTU
8513

Creatinine, 24 Hour, Urine

Specimen Requirements: Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL
tube Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. Additional Information: 1. This test does not require the use of a chemical preservative; if a chemical preservative is used, it must be added to the specimen within 4 hours of completion of 24-hour collection. 2. See the urine preservative collection options for acceptable preservatives when submitting specimen for multiple tests.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 30 days

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<thead>
<tr>
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<th>Days</th>
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<tbody>
<tr>
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</tr>
<tr>
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</table>

**CPT Code Information:** 82570

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**CRBF**

**Creatinine, Body Fluid**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Body Fluid Refrigerated (preferred) 7 days

<table>
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</tbody>
</table>

**CPT Code Information:** 82570

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**RCTUR**

**Creatinine, Random, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 30 days

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>30</td>
</tr>
<tr>
<td>Frozen</td>
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</tr>
</tbody>
</table>

**CPT Code Information:** 82570

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**CRGSP**

**Cryoglobulin and Cryofibrinogen Panel, Serum and Plasma**

**Specimen Requirements:** Both plasma and serum are required. Cryofibrinogen Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Tube must remain at $37^\circ C$, $1/2$ C. 2. Centrifuge at $37^\circ C$, $1/2$ C. (Do not use a refrigerated centrifuge. If absolutely necessary, ambient temperature is acceptable.) It is very important that the specimen remain at $37^\circ C$ until after separation of plasma from red cells. 3. Place plasma into an appropriately labeled plastic vial. Cryoglobulin Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 5 mL Collection Instructions: 1. Tube must remain at $37^\circ C$, $1/2$ C.
37°C. 2. Allow blood to clot at 37°C. 3. Centrifuge at 37°C. (Do not use a refrigerated centrifuge. If absolutely necessary, ambient temperature is acceptable.) It is very important that the specimen remain at 37°C until after separation of serum from red cells. 4. Place serum into an appropriately labeled plastic vial. Additional Information: Analysis cannot be performed with <3 mL of serum. Smaller volumes are insufficient to detect clinically important trace (mixed) cryoglobulins. Less than 3 mL will require draw of a new specimen.

**Specimen Minimum Volume:** Serum: 3 mL/Plasma: 0.5 mL

**Transport Temperature:**
- Plasma EDTA Refrigerated (preferred)
  - Frozen
- Serum Refrigerated (preferred)
  - Frozen

**CPT Code Information:** 82585-Cryofibrinogen; 82595-Cryoglobulin; 86334-Immunofixation (if appropriate);

**CRY_S**

Cryptoglobulin, Serum

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 5 mL Collection Instructions: 1. Tube must remain at 37°C. 2. Allow blood to clot at 37°C. 3. Centrifuge at 37°C. (Do not use a refrigerated centrifuge. If absolutely necessary, ambient temperature is acceptable.) It is very important that the specimen remain at 37°C until after separation of serum from red cells. 4. Place serum into an appropriately labeled plastic vial. Additional Information: Analysis cannot be performed with <3 mL of serum. Smaller volumes are insufficient to detect clinically important trace (mixed) cryoglobulins. Less than 3 mL will require draw of a new specimen.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred)
  - Frozen

**CPT Code Information:** 82595

**SLFA**

Cryptococcus Antigen Screen with Titer, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 14 days

**CPT Code Information:** 87899
Cryptococcus Antigen Screen with Titer, Spinal Fluid

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 1 mL
**Specimen Minimum Volume:** 0.5 mL
**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 87899-Cryptococcus screen; 87899-Cryptococcus titer (if appropriate);

Cryptococcus Antigen Screen, Lateral Flow Assay, Pleural Fluid

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL
**Specimen Minimum Volume:** 0.25 mL
**Transport Temperature:**
- Pleural Fluid Refrigerated (preferred) 21 days
- Frozen 30 days

**CPT Code Information:** 87899-Cryptococcus Ag Screen, LFA, PF; 87899-Cryptococcus Ag Titer, LFA, PF (if appropriate);

Cryptococcus Antigen Titer, Lateral Flow Assay, Pleural Fluid

**Specimen Requirements:** Only orderable as a reflex. For more information see PLFA / Cryptococcus Antigen Screen, Lateral Flow Assay, Pleural Fluid.
**Specimen Minimum Volume:** 0.25 mL
**Transport Temperature:**
- Pleural Fluid Refrigerated (preferred) 21 days
- Frozen 30 days

**CPT Code Information:** 87899

Cryptococcus Antigen Titer, LFA, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL
**Specimen Minimum Volume:** 0.3 mL
**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days
CPT Code Information: 87899

CLFAT 62076 Cryptococcus Antigen Titer, LFA, Spinal Fluid
Specimen Requirements: Container/Tube: Sterile vial Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
CSF Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 87899

LFACX 62703 Cryptococcus Antigen with Reflex, LFA, Spinal Fluid
Specimen Requirements: Container/Tube: Sterile vial Specimen Volume: 1 mL
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
CSF Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 87899, Cryptococcus Ag Screen w/Titer, CSF; 87899 Cryptococcus Ag Titer, LFA, CSF (as appropriate); 87102 Fungal Culture, CSF (as appropriate) (see FGEN for more information);

CRYPU 60319 Cryptococcus Antigen, Urine
Specimen Requirements: Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 0.5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.
Specimen Minimum Volume: 0.25 mL
Transport Temperature:
Urine Refrigerated (preferred) 7 days
Frozen 7 days

CPT Code Information: 87899

CRYPS 80335 Cryptosporidium Antigen, Feces
Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Preserved stool Supplies: Formalin - Meridian 10% Buffered Neutral (T466); Stool Collection Kit, Random (T635) Container/Tube: Preferred: Stool container with 10% buffered formalin preservative (T466) Acceptable: SAF (sodium acetate formalin) Specimen Volume: 5 g Specimen Stability Information: Ambient (preferred) 60 days Specimen Type: Unpreserved stool Supplies: Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635) Container/Tube: Stool container (T288) Specimen Volume: 5 g Specimen Stability Information: Frozen 60 days
Specimen Minimum Volume: 1 g

Transport Temperature:
Fecal Varies

CPT Code Information: 87328

Crystal Identification, Synovial Fluid

Specimen Requirements: Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Green top (heparin) Specimen Volume: 2 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Body Fluid Refrigerated (preferred)

Ambient 24 hours

Frozen

CPT Code Information: 89060

CSF3R Exon 14 and 17 Mutation Detection by Sanger Sequencing, Varies

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: EDTA (lavender top) or ACD (yellow top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability Information: Ambient (preferred)/Refrigerate Specimen Type: Bone marrow aspirate Container/Tube: EDTA (lavender top) or ACD (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability Information: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of the DNA. Specimen Stability Information: Frozen (preferred)/Refrigerate/Ambient Specimen Type: Paraffin-embedded tissue Container/Tube: Paraffin block Specimen Stability Information: Ambient Specimen Type: Tissue Slides: Unstained slides Specimen Volume: 10 Slides Specimen Stability Information: Ambient

Specimen Minimum Volume: Blood, bone marrow: 1 mL Extracted DNA from blood or bone marrow: 50 microliters (mcL) at 20 ng/mcL

Transport Temperature:
Varies 10 days

CPT Code Information: 81479 â€“ Unlisted molecular pathology procedure

CTRC Gene, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who
have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** Blood: 1 mL

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81405

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**CU Index**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 2 mL Collection Instructions: Draw 5 mL blood in a serum separator tube (SST) (plain, red-top tube is acceptable). Separate from cells within 2 hours of draw. Send 2 mL of serum refrigerated in a plastic vial. Note: 1) Patients taking calcineurin inhibitors should stop medication 72 hours prior to draw. 2) Patients taking prednisone should be off their medication for 2 weeks prior to draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 60 days
- Ambient 7 days

**CPT Code Information:** 86352

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**CU Index Panel**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). Allow to clot; then spin down and separate. Submit 3 mL serum refrigerated in a plastic vial. Note: 1) Patients taking calcineurin inhibitors should stop medication 72 hours prior to draw. 2) Patients taking prednisone should be off their medication 2 weeks prior to draw.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen

**CPT Code Information:** 84443; 86352; 86376; 86800 ;

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**Cucumber IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**CUKE**  
**82861**

**Cucumber, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**OATC**  
**82916**

**Cultivated Oat, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**CRYE**  
**82918**

**Cultivated Rye, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
CPT Code Information: 86003

WHTC
82915

Cultivated Wheat, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

FUNID
8223

Culture Referred for Identification, Fungus

Specimen Requirements: Specimen Type: Organism in pure culture Supplies: Infectious Container, Large (T146) Container/Tube: Preferred: Sabouraud dextrose agar slant Acceptable: Inhibitory mold agar slant Specimen Volume: Isolated mold or yeast Collection Instructions: Organism must be in pure culture, actively growing. Do not submit mixed cultures.

Transport Temperature:
Varies Ambient (preferred)
Refrigerated

CPT Code Information: 87107-Culture, fungi, definitive identification; 87106-Culture, fungi, definitive identification, each organism; yeast (if appropriate); 87106-Id MALDI-TOF Mass Spec Yeast (if appropriate); 87107-Id MALDI-TOF Mass Spec Fungi (if appropriate); 87107-Culture, fungi, definitive identification, each organism; mold (if appropriate); 87107-Fungal identification Panel A (if appropriate); 87107-Fungal identification Panel B (if appropriate); 87107-Yeast Identification Panel B (if appropriate); 87150-Identification rapid PCR coccidioides (if appropriate); 87150 x 2-Identification Histoplasma/Blastomyces, PCR (if appropriate); 87153-D2 fungal sequencing Identification (if appropriate);

CTBID
80278

Culture Referred for Identification, Mycobacterium and Nocardia

Specimen Requirements: Specimen Type: Organism in pure culture Supplies: Infectious Container, Large (T146) Container/Tube: Middlebrook (7H10 or 7H11) or Lowenstein-Jensen medium slant or in broth (eg, Mycobacteria Growth Indicator Tube [7H9] broth) Specimen Volume: Visible growth of isolate on solid media Isolate in broth media: > or =3 mL A minimum volume of 3 mL is recommended in order to perform all initial testing, this may include: stains, sub-culture media, nucleic acid probes, and any additional testing that may be required to determine the identification. If the broth sample volume is <3 mL, initial testing may be limited, and increased turnaround time is likely. Collection Instructions: Organism must be in pure culture, actively growing. Do not submit mixed
cultures.

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:**
- Culture Referred for Identification, Mycobacterium; 87118-Identification of mycobacteria; 87158-Identification of mycobacteria by other methods (if appropriate); 87118-Id MALDI-TOF Mass Spec AFB (if appropriate); 87153-Mycobacteria Identification by Sequencing (if appropriate); 87150-Mycobacteria Probe Ident, Solid (if appropriate); 87150-Mycobacteria Probe Ident, Broth (if appropriate); 87150-ld, Mtb Speciation, PCR (if appropriate);

**TBIDS 64714**

**Culture Referred for Identification, Mycobacterium and Nocardia with Antimicrobial Susceptibility Testing**

**Specimen Requirements:**
- Specimen Type: Organism in pure culture
- Supplies: Infectious Container, Large (T146)
- Container/Tube: Middlebrook (7H10 or 7H11) or Lowenstein-Jensen medium slant or in broth (eg, Mycobacteria Growth Indicator Tube [7H9] broth)
- Specimen Volume: Isolate
- Collection Instructions: Organism must be in pure culture, actively growing. Do not submit mixed cultures.

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:**
- Culture Referred for Identification, Mycobacterium; 87118-Identification of mycobacteria; 87158-Identification of mycobacteria by other methods (if appropriate); 87118-Id MALDI-TOF Mass Spec AFB (if appropriate); 87153-Mycobacteria Identification by Sequencing (if appropriate); 87150-Mycobacteria Probe Ident, Solid (if appropriate); 87150-Mycobacteria Probe Ident, Broth (if appropriate); 87150-ld, Mtb Speciation, PCR (if appropriate); 87186-Susceptibility Rapid Grower (if appropriate); 87186-Susceptibility Slow Grower (if appropriate); 87186-Susceptibility Nocardia species (if appropriate); 87188 x 3-Antimicrobial Susceptibility, Mycobacterium tuberculosis Complex, Broth Method (if appropriate); 87186-Susceptibility, Mtb Cx, 2nd Line (if appropriate); 87188-Susceptibility, Mycobacterium tuberculosis Complex, Pyrazinamide (if appropriate); 87153-Mtb PZA Confirmation, pncA Sequencing (if appropriate);

**VRID2 5190**

**Culture Referred for Identification, Virus**

**Specimen Requirements:**
- Supplies: Infectious Container, Large (T146)
- Specimen Type: Pure culture of organism from source cultured
- Container/Tube: Cell (viral) culture tube
- Specimen Volume: Entire specimen
- Collection Instructions: 1. Organism must be in pure culture, actively growing. 2. Completely fill culture tube with appropriate culture medium before shipment.

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:**
- 87253-Additional Testing Virus Identification (if appropriate);
- 87254-Viral Smear, Shell Vial (if appropriate);
**Curry, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
Specimen Volume: 0.5 mL for each 5 allergens requested
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For one allergen: 0.3 mL; For more than one allergen: 
(0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Curvularia lunata, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
Specimen Volume: 0.5 mL for each 5 allergens requested
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For one allergen: 0.3 mL; For more than one allergen: 
(0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Curvularia spicifera/Bipolaris IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**Cutaneous Anaplastic Large Cell Lymphoma, 6p25.3 (DUSP22 or IRF4) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Lymph node Preferred: Tissue block
Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE)
tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5-micron thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide. Specimen Type: Solid tumor Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5-micron thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron thick sections placed on positively charged slides. Include 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); 88275 w/modifier 52.
connective tissue disease: Biopsy as for lupus erythematosus except when sclerodermoid features are present. For sclerodermoid features, biopsy inflamed area. Label as involved or uninvolved, exposed or nonexposed skin. 5. Vasculitis and urticaria: The erythematous or active border of a new lesion is preferred. Avoid old lesions and ulcers. Label as involved skin. If appropriate, skin lesion is not present, diagnosis may sometimes be made from uninvolved skin. 6. Porphyria cutanea tarda: Biopsy involved skin. Avoid old lesions and ulcers. Label as involved skin. 7. Lichen planus and lichenoid reactions: Biopsy involved skin. Avoid old lesions and ulcers. Label as involved skin.

**Specimen Minimum Volume:** Entire specimen

**Transport Temperature:**
- Ambient (preferred)
- Frozen 120 days
- Refrigerated

**CPT Code Information:** Per biopsy site: 88346; 88350 x 4;

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**Cutaneous Immunofluorescence Antibodies (IgG), Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 88346; 88350;

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**CXCL13 Immunostain, Technical Component Only**

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693)
- Specimen Type: Tissue
- Container/Tube: Immunostain Technical Only Envelope
- Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick
- Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** NA

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**CXCR4 Mutation Analysis, Somatic, Lymphoplasmacytic Lymphoma/Waldenstrom Macroglobulinemia**
**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Bone marrow aspirate Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of the DNA Specimen Stability Information: Frozen (preferred)/Refrigerated/Ambient Specimen Type: Paraffin-embedded tissue Container/Tube: Paraffin block Specimen Stability Information: Ambient Specimen Minimum Volume: Blood, Bone Marrow: 1 mL Extracted DNA: at least 20 mcL with a concentration of at least 10 nanograms per mcL

**Transport Temperature:**
Varies

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

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**Cyanide, Blood Test**

**Specimen Requirements:** Container/Tube: Gray top (potassium oxalate/sodium fluoride) Specimen volume: 2 mL Collection instructions: Collect 2 mL whole blood in potassium oxalate/sodium fluoride Gray top tube, send frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Whole Blood NaFl-KOx Frozen 90 days

**CPT Code Information:** 82600

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**Cyclic AMP, Urinary Excretion**

**Specimen Requirements:** Both serum and urine are required. Serum must be drawn at time of urine collection. Specimen Type: Serum Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: Label specimen as serum. Specimen Type: Urine Supplies: Urine Container, 60 mL (T313) Specimen Volume: 14 mL Collection Instructions: 1. Collect a random urine specimen. 2. Label specimen as urine.

**Specimen Minimum Volume:** Serum: 0.5 mL Urine: 5.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days

Frozen 90 days

Urine Frozen (preferred) 28 days

Refrigerated 28 days

**CPT Code Information:** 82030

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Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Cyclic Citrullinated Peptide Antibodies, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top

**Volume:** 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86200

Cyclin D1 (CCND1, CYCD1) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Cyclobenzaprine (Flexeril)

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Specimen Type: Plasma Container/Tube: Green Top Specimen Volume: 2 mL Collection Instructions: Draw blood in a green-top (sodium heparin) tube, plasma gel tube is not acceptable. Spin down and send 2 mL of sodium heparin plasma refrigerated in a plastic vial. Serum Specimen Type: Serum Container/Tube: Red Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain, red-top tube, serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 30 days
- Ambient 72 hours

**CPT Code Information:** 80369

Cyclospora Stain

**Specimen Requirements:** Patient Preparation: Patient should avoid use of antidiarrheal medication
(ie, loperamide or Pepto-Bismol). The presence of barium will interfere with this test. Supplies: ECOFIX Stool Transport Vial (Kit) (T219) Formalin-Meridian 10% Buffered Neutral (T466) Stool container, Small (Random), 4 oz (T288) Sodium Acetate Formalin (SAF) Stool Collection Kit, Random (T635) Submit only 1 of the following specimens: Preferred: Specimen Type: Preserved stool Preferred: ECOFIX Stool Transport Vial (Kit) (T219) Acceptable: 10% Buffered Formalin Stool Transport (Kit) (T466), Sodium Acetate Formalin (SAF) Specimen Volume: 10 g Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Unpreserved stool Container/Tube: Stool container (T288) Specimen Volume: 5 g Specimen Stability Information: Refrigerated 3 days (preferred)/Frozen

**Specimen Minimum Volume:** Preserved stool: 1 g; Unpreserved stool: 2 g

**Transport Temperature:**
Fecal Varies

**CPT Code Information:** 87015-Concentration; 87207-Stain;

### Cyclosporine, Blood

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Draw specimen immediately before a scheduled dose. 2. Do not centrifuge. 3. Send specimen in original tube. Additional Information: Therapeutic range applies to trough specimens drawn immediately prior to a.m. dose.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 14 days

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**CPT Code Information:** 80158

### Cyclosporine, Peak, Blood

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Do not centrifuge. 2. Send specimen in original tube. Additional Information: No definitive therapeutic or toxic ranges have been established for this Peak testing.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 14 days

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**CPT Code Information:** 80158

### CYP3A5 Genotype

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be
ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Saliva Patient Preparation: Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: One swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**

- Varies

**CPT Code Information:** 81231-CYP3A5

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**CYSTC**

**Cystatin C with Estimated GFR, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
  - Ambient 7 days
  - Frozen 7 days

**CPT Code Information:** 82610

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**CFP**

**Cystic Fibrosis Mutation Analysis, 106-Mutation Panel**

**Specimen Requirements:** Additional Information: Patient education brochures in English (T548) and Spanish (T563) are available upon request. Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2.5 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 5 Blood spots on collection card (Whatman Protein Saver 903 Paper)

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Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Amniotic fluid: 10 mL Blood: 0.5 mL Chorionic Villi: 5 mg Blood Spots: 5 punches, 3-mm diameter

**Transport Temperature:**
Varies

**CPT Code Information:** 81220-CFTR; Fibroblast Culture for Genetic Test; 88233-(if appropriate); 88240-(if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-(if appropriate); 88240-Cryopreservation (if appropriate); Maternal Cell Contamination, B; 81265-(if appropriate);

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**FCAI**

75097

**Cysticercosis Antibody, IgG by ELISA**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a serum gel tube(s). Spin down and send 1 mL of serum refrigerated in plastic vial. Parallel testing is preferred and convalescent specimen must be received within 30 days from receipt of the acute specimens. Mark specimens plainly as acute or convalescent.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum SST Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 48 hours

**CPT Code Information:** 86682

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**CYST**

80425

**Cysticercus Antibody, ELISA (CSF)**

**Specimen Requirements:** Specimen Type: Spinal Fluid Sources: CSF Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Submit 1 mL of spinal fluid (CSF) in a sterile, plastic screw-cap vial. Refrigerate specimen after collection and ship at refrigerator temperature.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
  - Frozen 30 days
  - Ambient 7 days

**CPT Code Information:** 86682

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**CYSQN**

Cystinuria Profile, Quantitative, 24 Hour, Urine

**CPT Code Information:** 75097 Cysticercosis Antibody, IgG by ELISA 80425 Cysticercus Antibody, ELISA (CSF)
**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect before intravenous pyelogram. 2. Collect urine for 24 hours. 3. Add 20 mL of toluene as preservative at start of collection. If toluene is not available, refrigerate during collection. 4. Mix well before taking 5-mL aliquot. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Frozen (preferred) 70 days
- Refrigerated 14 days

**CPT Code Information:** 82136

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**CYSR 81067**

**Cystinuria Profile, Quantitative, Random, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 2 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Frozen (preferred) 70 days
- Refrigerated 14 days

**CPT Code Information:** 82136

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**CYOXS 80873**

**Cytochrome Oxidase Stain (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test. Order MPCT / Muscle Pathology Consultation or MBCT / Muscle Biopsy Consultation, Outside Slides and/or Paraffin Blocks. The consultant will determine the need for special stains.

**Transport Temperature:**
- Tissue Varies

**CPT Code Information:** 88319

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**1A2V 97389**

**Cytochrome P450 1A2 Genotype**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient 30 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100
Cytochrome P450 2C19 Genotype

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient 30 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
Varies

**CPT Code Information:** 0031U

Cytochrome P450 2C9 Genotype

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient 30 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
Varies

**CPT Code Information:** 81225
Cytochrome P450 2D6 (CYP2D6) Comprehensive Cascade

Specimen Requirements: Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient 30 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 75 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

Specimen Minimum Volume: Blood: 1 mL Saliva: 1 swab

Transport Temperature: Varies

CPT Code Information: 0070U

Cytochrome P450 3A4 Genotype

Specimen Requirements: Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Saliva Patient Preparation: Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: One swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

Specimen Minimum Volume: Blood: 0.4 mL Saliva: 1 swab

Transport Temperature: Varies

CPT Code Information: 81230-CYP3A4

Cytokine Panel

Specimen Requirements: Submit only 1 of the following: Serum Draw blood in a plain, red-top tube(s), serum gel tube is acceptable. Spin down within 2 hours and send 1 mL of serum frozen in a plastic vial. Plasma Draw blood in a green-top (lithium-heparin) tube(s). Spin down within 2 hours and send 1 mL of plasma frozen in a plastic vial. Note: Critical frozen. Additional specimens must be submitted when multiple tests are ordered.
Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Varies Frozen 365 days

CPT Code Information: 83520 x 13

**CFNPC** 113344

**Cytology FNA (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88173

**CTPPC** 113340

**Cytology Touch Prep (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88333

**CTAPC** 113341

**Cytology Touch Prep Additional (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88334

**CMVG** 34970

**Cytomegalovirus (CMV) Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CMVP 62067**

**Cytomegalovirus (CMV) Antibodies, IgM and IgG, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Aliquot tube Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86644-CMV, IgG; 86645-CMV, IgM;

**CMVM 34971**

**Cytomegalovirus (CMV) Antibodies, IgM, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Aliquot tube Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86645

**CMVC8 88826**

**Cytomegalovirus (CMV) CD8 T-Cell Immune Competence, Quantitative Assessment by Flow Cytometry**

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day. Timing and consistency in timing of blood collection is critical when serially monitoring patients for lymphocyte subsets. See data under Clinical Information. Supplies: Ambient Mailer-Critical Specimens Only (T668) Container/Tube: Green top (sodium heparin) Specimen Volume: 20 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 10 mL

**Transport Temperature:**
- WB Sodium Heparin Ambient 48 hours

**CPT Code Information:** 88184-Flow Cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; first marker; 88185 x 2-Each additional marker;

**CMVQN 601954**

**Cytomegalovirus (CMV) DNA Detection and Quantification by Real-Time PCR, Plasma**
Specimen Requirements: Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Lavender top (EDTA plasma) Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 1.5 mL Collection Instructions: 1. Centrifuge blood collection tube per manufacturer's instructions. 2. Pour off plasma into aliquot tube.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Plasma EDTA Frozen (preferred) 84 days
Refrigerated 6 days

CPT Code Information: 87497

Cytomegalovirus (CMV) Genotypic Drug Resistance

Specimen Requirements: Submit only 1 of the following specimens: Note: Label specimen with source. Plasma (Preferred) Specimen Type: Plasma Container/Tube: lavender-top EDTA tube or white top (EDTA PPT) tube Specimen Volume: 1 mL Specimen Stability: Frozen (preferred) 30 days/Refrigerated 8 days Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s) or white top (EDTA PPT) tube(s). Spin down within 2 hours and send 1 mL of EDTA plasma frozen in a plastic vial. Blood Specimen Type: Whole Blood Container/Tube: lavender-top EDTA tube Specimen Volume: 2-5 mL Specimen Stability: Frozen (preferred) 30 days/Refrigerated 8 days Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s), and send 2 - 5 mL of whole blood frozen. CSF Specimen Type: CSF Container/Tube: Sterile plastic container Specimen Volume: 1 mL Specimen Stability: Frozen 30 days Collection Instructions: Collect 1 mL in a sterile, plastic container and ship frozen. BAL Specimen Type: BAL Container/Tube: Sterile plastic container Specimen Volume: 1 mL Specimen Stability: Frozen (preferred) 30 days/Refrigerated 8 days Collection Instructions: Collect 1 mL in a sterile, plastic container and ship frozen.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Varies Frozen 30 days

CPT Code Information: 87910

Cytomegalovirus (CMV) IgG Avidity (AviDx), ELISA

Specimen Requirements: Draw blood in a plain, red-top tube(s). Serum gel tube is acceptable. Spin down and send 1 mL of serum refrigerated in plastic vial.

Specimen Minimum Volume: 0.50 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 30 days
Ambient 7 days

CPT Code Information: 86644
Cytomegalovirus (CMV) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Cytomegalovirus (CMV), Molecular Detection, PCR

**Specimen Requirements:** Submit only 1 of the following specimens:
- Supplies: Aliquot Tube, 5 mL (T465) Specimen Type: Fluid Sources: Spinal, pleural, peritoneal, ascites, pericardial, amniotic, or ocular Container/Tube: Preferred: 12 x 75-mm screw cap vial (T465) Acceptable: Sterile Container Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Supplies: Aliquot Tube, 5 mL (T465) Specimen Type: Fluid Sources: Respiratory; bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate Container/Tube: Preferred: 12 x 75-mm screw cap vial (T465) Acceptable: Sterile container Specimen Volume: 1.5 mL Supplies: Culturette (BBL Culture Swab) (T092) M4-RT (T605) Specimen Type: Swab Sources: Genital; cervix, vagina, urethra, anal/rectal, or other genital sources Container/Tube: multimicrobe media (M4-RT) (T605) Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5) Supplies: Culturette (BBL Culture Swab) (T092) M4-RT Media (T605) Specimen Type: Swab Sources: Miscellaneous; dermal, eye, nasal, saliva, or throat Container/Tube: multimicrobe media (M4-RT) (T605) Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5) Supplies: M4-RT (T605) Specimen Type: Tissue Sources: Brain, colon, kidney, liver, lung, etc. Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT [T605], M4, or M5) Specimen Volume: Entire collection Collection Instructions: Submit only fresh tissue in multimicrobe media (M4-RT) (T605) or a sterile container with 1 to 2 mL sterile saline Specimen Type: Urine Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Collect a random urine specimen Specimen Type: Bone marrow Container/Tube: Lavender top (EDTA) Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** Body Fluid, Ocular Fluid, Spinal Fluid, or Urine: 0.3 mL Respiratory Specimens: 1 mL Tissue: 2 x 2-mm biopsy

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days
Frozen 7 days

**CPT Code Information:** 87496

Cytoplasmic Neutrophil Antibodies, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**

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CPT Code Information: 86255-Screen; 86256-Titer (if appropriate);

**DIRM 6625**

**D-Dimer, Plasma**

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

CPT Code Information: 85379

**DDITT 40936**

**D-Dimer, Plasma**

**Specimen Requirements:**
- Specimen Type: Platelet-poor plasma
- Collection Container/Tube: Light-blue top (3.2% sodium citrate)
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1 mL
- Collection Instructions: Spin down, remove plasma and spin plasma again. Additional Information: Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen (preferred) 90 days

Ambient 4 hours

CPT Code Information: 85379

**DLAC 8878**

**D-Lactate, Plasma**

**Specimen Requirements:**
- Collection Container/Tube: Grey top (potassium oxalate/sodium fluoride) (T275)
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1 mL
- Collection Instructions: Spin down and immediately freeze specimen. Additional Information: For L-lactate (lactic acid), order LLA / Lactate, Plasma.

**Specimen Minimum Volume:** 0.55 mL

**Transport Temperature:**
Plasma NaFl-KOx Frozen (preferred) 365 days

Ambient 7 days

Refrigerated 7 days

CPT Code Information: 83605

**DLAU 8873**

**D-Lactate, Urine**

**Specimen Requirements:**
- Container/Tube: Plastic, 10-mL urine tube (T068)
- Specimen Volume: 2.5 mL
- Collection Instructions: 1. Collect a timed or random urine specimen. 2. No preservative. 3.
Immediately freeze specimen.

**Specimen Minimum Volume:** 0.65 mL

**Transport Temperature:**
- Urine Frozen (preferred) 365 days
- Refrigerated 7 days
- Ambient 72 hours

**CPT Code Information:** 83605

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**Dairy and Grain Allergen Profile**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003 x 5

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**Dandelion, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Dantrolene, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Collection Container/Tube: Red-top tube Submission Container/Tube: (T192) Amber plastic transport tube Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL of serum frozen in an amber (T192) plastic transport tube to protect from light. Note: Label specimen appropriately (serum). Plasma Collection Container/Tube: Lavender-top (EDTA) Submission Container/Tube: (T192) Amber plastic transport tube Specimen Volume: 1 mL Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s). (Plasma gel tube is not acceptable.) Spin down and send 1 mL of EDTA plasma frozen in an amber (T192) plastic transport tube to protect from light. Note: Label specimen appropriately (plasma).

**Specimen Minimum Volume:** 0.3 mL
Transport Temperature:  
Varies Frozen 7 days

CPT Code Information: 80369

**DATE**  
**82358**

**Date, Fruit, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel  
Specimen Volume: 0.5 mL for each 5 allergens requested  
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

CPT Code Information: 86003

**DATRE**  
**82481**

**Date, Tree, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel  
Specimen Volume: 0.5 mL for each 5 allergens requested  
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

CPT Code Information: 86003

**DEEP**  
**82144**

**Deer Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel  
Specimen Volume: 0.5 mL for each 5 allergens requested  
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

CPT Code Information: 86003
**Dehydroepiandrosterone (DHEA), Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.45 mL

**Transport Temperature:**
- Serum Frozen (preferred) 28 days
- Refrigerated 21 days
- Ambient 6 hours

**CPT Code Information:** 82626

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**Dehydroepiandrosterone Sulfate (DHEA-S), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 30 days

**CPT Code Information:** 82627

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**Dementia, Autoimmune Evaluation, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 83519-ACh receptor (muscle) binding antibody; 83519-AChR ganglionic neuronal antibody; 83519-Neuronal VGKC autoantibody; 83519-N-type calcium channel antibody; 83519-P/Q-type calcium channel antibody; 86255-AGNA-1; 86255-Amphiphysin; 86255-ANNA-1; 86255-ANNa-2; 86255-ANNa-3; 86255-CRMP-5-IgG; 86255-PCA-2; 86255-PCA-Tr; 86255-AMPAR-Ab; 86255-GABAR-Ab; 86255-NMDAR-Ab; 86341-GAD65; 86255-LG1CS; 86255-CS2CS; 86255-PCA-1 (if appropriate); 84182-Amphiphysin Western blot (if appropriate); 84182-CRMP-5 Western blot confirmation (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86256-AMPAR-Ab titer (if appropriate); 86256-GABAR-Ab titer (if appropriate); 86256-NMDAR-Ab titer (if appropriate); 86256- NMO/AQP4-IgG FACS titer (if appropriate);
Dementia, Autoimmune Evaluation, Spinal Fluid

**Specimen Requirements:** Container/Tube: Sterile vial  Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred)  28 days
- Frozen  28 days
- Ambient  72 hours

**CPT Code Information:**
- 83519-Neuronal VGKC autoantibody; 86255-AGNA-1;
- 86255-Amphiphysin; 86255-ANNA-1; 86255-ANNA-2; 86255-ANNA-3; 86255-CRMP-5-IgG;
- 86255-PCA-2; 86255-PCA-Tr; 86255-AMPAR-Ab; 86255-GABAR-Ab; 86255-NMDAR-Ab;
- 86341-GAD65 ; 86255-LG1CC; 86255- CS2CC; 84182-Amphiphysin Western blot (if appropriate);
- 84182-CRMP-5 Western blot confirmation (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86255-PCA-1 (if appropriate); 86256-AMPAR-Ab titer (if appropriate); 86256-GABAR-Ab titer (if appropriate); 86256-NMDAR-Ab titer (if appropriate); 86256- NMO/AQP4-IgG FACS titer (if appropriate)

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Dengue Virus Antibody, IgG and IgM, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel  Acceptable: Red top
Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred)  14 days
- Frozen  14 days

**CPT Code Information:**
- IgM: 86790; IgG: 86790;

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Dengue Virus Antibody/Antigen Panel, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel  Acceptable: Red top
Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Serum Refrigerated (preferred)  14 days
- Frozen  14 days

**CPT Code Information:**
- IgG: 86790; IgM: 86790; NS1: 86790;

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Dengue Virus NS1 Antigen, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel  Acceptable: Red top
Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL
**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86790-NS1 Ag

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**DRPL**

**35402**

**Dentatorubral-Pallidoluysian Atrophy (DRPLA) Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Transport Temperature:**
Varies Ambient (preferred)
Frozen
Refrigerated

**CPT Code Information:** 81401-ATN1 (atrophin 1) (eg, dentatorubral-pallidoluysian atrophy), evaluation to detect abnormal (eg, expanded) alleles

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**FDCU**

**58048**

**Deoxypyridinoline Crosslinks, Urine**

**Specimen Requirements:** Transfer 3.5 mL aliquot from well-mixed first morning urine collection, no preservatives, shipped frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Urine Frozen (preferred) 90 days
Refrigerated 7 days

**CPT Code Information:** 82523

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**DMIC**

**82828**

**Dermatophagoides microceras, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days
**DermPath Consultation, Wet Tissue**

**Specimen Requirements:**
- Supplies: Dermatopathology Media (T101)
- Sources: Skin or oral mucosa
- Container/Tube: Regular serum vials with 10% formalin (T101)
- Specimen Volume: Entire specimen
- Collection Instructions: For scalp biopsies when the differential diagnosis includes a scarring alopecia, 2 separate 4-mm punch biopsies are recommended (1 for vertical and 1 for horizontal sections). If a single scalp biopsy is received with the clinical diagnosis of a scarring alopecia, the specimen will be processed with horizontal sections.

**Specimen Minimum Volume:** Size needed depends on diagnosis and size of lesion.

**Transport Temperature:**
- Tissue Ambient

**CPT Code Information:**
- Level II Surg Path Gross and Micro Exam; 88302 (if appropriate); 88303 (if appropriate); 88304 (if appropriate); 88305 (if appropriate);

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**Des-Gamma-Carboxy Prothrombin (DCP), Serum**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Frozen (preferred) 90 days
- Refrigerated 7 days

**CPT Code Information:** 83951

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**Desipramine, Serum**

**Specimen Requirements:**
- Container/Tube: Red top
- Specimen Volume: 1 mL
- Collection Instructions: 1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 7 days

**CPT Code Information:**
- 80335; G0480 (if appropriate);

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**Desmin Immunostain, Technical Component Only**

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693)
- Specimen Type: Tissue
- Container/Tube: Immunostain Technical Only Envelope (T693)
- Preferred: 2 Unstained slides

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positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**DSG13**

**Desmoglein 1 (DSG1) and Desmoglein 3 (DSG3), IgG Antibodies, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 36 hours

**CPT Code Information:** 83516 x 2

**DESG3**

**Desmoglein 3 (DSG3) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**DSRCT**

**Desmoplastic Small Round-Cell Tumor by Reverse Transcriptase PCR (RT-PCR)**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue with a minimum of 5% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 5% tumor cell population; slides may be stained and/or scraped Slides: A minimum of ten, 4-to 5-micron thick, unstained slides are required.

**Transport Temperature:**
Varies Ambient  (preferred)
Frozen
Refrigerated

**CPT Code Information:** 81401-EWSR1/WT1 (t(11;22)) (eg, Ewing sarcoma/peripheral neuroectodermal tumor), translocation analysis, qualitative, and quantitative, if performed; 88381-Microdissection, manual;

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**FDXM**  
_Dexamethasone_

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). Spin down and send 3 mL of serum frozen in a plastic vial. Note: Serum gel tube is acceptable, but must pour off into a plastic vial.

**Specimen Minimum Volume:** Pediatric minimum: 1 mL 
Note: Does not allow for repeat analysis.

**Transport Temperature:**
Serum Frozen (preferred) 365 days
Refrigerated 14 days
Ambient 6 days

**CPT Code Information:** 80375

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**FDXAP**  
_Dexedrine (Dextroamphetamine)_

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days
Frozen 180 days

**CPT Code Information:** 80324

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**FDM**  
_Dextromethorphan (DM), Serum_

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days
Diabetes Mellitus Type 1 Evaluation, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 72 hours

**CPT Code Information:** 80362-Insulin antibodies; 86341 x3-Islet cell antibody;

Diazepam and Nordiazepam, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
  - Ambient 14 days
  - Frozen 14 days

**CPT Code Information:** 80346; G0480 (if appropriate);

Digitoxin, Serum/Plasma

**Specimen Requirements:** Submit only 1 of the following: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL of serum refrigerated in a plastic vial. Note: Label specimen appropriately (serum). Plasma Draw blood in a lavender-top (EDTA) tube(s). (Plasma gel tube is not acceptable.) Spin down and send 1 mL of EDTA plasma refrigerated in a plastic vial. Note: Label specimen appropriately (plasma).

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
  - Frozen 90 days

**CPT Code Information:** 80375
**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top

**Specimen Volume:** 1 mL

**Collection Instructions:**
1. Draw blood 6 to 8 hours after last dose of digoxin.
2. Serum gel tubes should be centrifuged within 2 hours of collection.
3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 180 days

**CPT Code Information:** 80163

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**Digoxin, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top

**Specimen Volume:** 1 mL

**Collection Instructions:**
1. Draw blood 6 to 8 hours after the last dose of digoxin.
2. Serum gel tubes should be centrifuged within 2 hours of collection.
3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 180 days

**CPT Code Information:** 80162

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**Dihydropyrimidine Dehydrogenase (DPYD) Full Gene Sequencing**

**Specimen Requirements:** Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens:

- **Specimen Type:** Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL

  **Collection Instructions:**
  1. Invert several times to mix blood.
  2. Send specimen in original tube.

- **Specimen Stability Information:** Ambient (preferred)/Refrigerated Supplies: DNA Saliva Collection Kit (T651)

  **Specimen Volume:** Full tube Collection Instructions:
  1. Fill tube to line.
  2. Send specimen in original container per kit instructions.

- **Specimen Stability Information:** Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube

  **Specimen Volume:** 100 mcL (microliters) Collection Instructions:
  1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL.
  2. Include concentration and volume on tube.

**Specimen Minimum Volume:** Blood: 0.45 mL Saliva: Full tube of saliva

**Transport Temperature:**
- Varies

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Current as of October 16, 2018 7:53 pm CDT
**Dihydropyrimidine Dehydrogenase (DPYD) Genotype**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Saliva Patient Preparation: Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection. Supplies: DNA Saliva Collection Kit (T786) Container/Tube: Saliva Swab Collection Kit (T786: fees apply) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:** Varies Varies

**CPT Code Information:** 81232

**Dihydrorhodamine (DHR) Flow Cytometric N-Formyl-Methionyl-Leucyl-Phenylalanine (fMLP) Test, Blood**

**Specimen Requirements:** Both a whole blood sodium heparin specimen and a whole blood sodium heparin control specimen from an unrelated, healthy donor are required. Supplies: Ambient Mailer-Critical Specimens Only (T668) Patient: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: Send specimen in original tube. Do not aliquot. Normal Control: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated person within an hour of the patient. 2. Label clearly on outermost label normal control. 3. Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** WB Sodium Heparin Ambient 48 hours

**CPT Code Information:** 82657; 88184;

**Dihydrorhodamine (DHR) Flow Cytometric Phorbol Myristate Acetate (PMA) Test, Blood**

**Specimen Requirements:** Both a whole blood sodium heparin specimen and a whole blood sodium heparin control specimen from an unrelated, healthy donor are required. Supplies: Ambient Mailer-Critical Specimens Only (T668) Patient: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: Send specimen in original tube. Do not aliquot. Normal Control: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated person within an hour of the patient. 2. Label clearly on outermost label normal control. 3. Send specimen in original tube. Do not aliquot.
**DHR**

Dihydrorhodamine (DHR) Flow Cytometric Test, Blood

**Specimen Requirements:** Both a whole blood sodium heparin specimen and a whole blood sodium heparin control specimen from an unrelated, healthy donor are required. Supplies: Ambient Mailer-Critical Specimens Only (T668) Patient: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: Send specimen in original tube. Do not aliquot. Normal Control: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated person within an hour of the patient. 2. Label clearly on outermost label normal control. 3. Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** WB Sodium Heparin Ambient 48 hours

**CPT Code Information:** 82657; 88184;

**DHTS**

Dihydrotestosterone, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:** Serum Refrigerated (preferred) 7 days

Frozen 90 days

**CPT Code Information:** 80327; G0480 (if appropriate);

**DCMG P**

Dilated Cardiomyopathy Multi-Gene Panel, Blood

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:** Whole Blood EDTA Ambient (preferred)

Refrigerated

**CPT Code Information:** 81439
**DILL**

**Dill, IgE**

**Specimen Requirements:**
- Container/Tube: Preferred: Red top
- Acceptable: Serum gel

**Specimen Volume:**
- 0.5 mL for each 5 allergens requested
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:**
- For 1 allergen: 0.3 mL
- For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FDILT**

**Diltiazem (Cardizem, Dilacor)**

**Specimen Requirements:**
- Submit only 1 of the following specimens:
  - Plasma: Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial.
  - Serum: Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80375

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**CDRVT**

**Dilute Russell Viper Venom Time (DRVVT) Confirmation Ratio**

**Specimen Requirements:**
- Only orderable as part of a profile. For more information see DRVTI / Dilute Russell Viper Venom Time (DRVVT), with Reflex, Plasma and DRVTJ / Dilute Russell Viper Venom Time (DRVVT) Mix and Confirm Reflexes, Plasma.

**Specimen Minimum Volume:**
- Only orderable as part of a profile. For more information see DRVTI / Dilute Russell’s Viper Venom Time (DRVVT), with Reflex, Plasma and DRVTJ / Dilute Russell’s Viper Venom Time (DRVVT) Mix and Confirm Reflexes, Plasma.

**Transport Temperature:**
- Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85613

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**DRVTK**

**Dilute Russell Viper Venom Time (DRVVT) Interpretation**

**Specimen Requirements:**
- Only orderable as a part of a reflex. For more information see DRVTI / Dilute Russell Viper Venom Time (DRVVT), with Reflex, Plasma.

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**Transport Temperature:**
Plasma Na Cit Frozen 14 days

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**DRVTJ 63679**

**Dilute Russell Viper Venom Time (DRVVT) Mix and Confirm Reflexes, Plasma**

**Specimen Requirements:** Only orderable as a part of a profile. For more information see DRVTI / Dilute Russell Viper Venom Time (DRVVT), with Reflex, Plasma.

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

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**MDRVT 63680**

**Dilute Russell Viper Venom Time (DRVVT) Mix Ratio**

**Specimen Requirements:** Only orderable as part of a profile. For more information see DRVTI / Dilute Russell Viper Venom Time (DRVVT), with Reflex, Plasma and DRVTJ / Dilute Russell Viper Venom Time (DRVVT) Mix and Confirm Reflexes, Plasma.

**Specimen Minimum Volume:** Only orderable as a part of a profile. For more information see DRVTI / Dilute Russell Viper Venom Time (DRVVT), with Reflex, Plasma and DRVTJ / Dilute Russell Viper Venom Time (DRVVT) Mix and Confirm Reflexes, Plasma.

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

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**CPT Code Information:** 85613

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**DRVTI 63678**

**Dilute Russell Viper Venom Time (DRVVT), with Reflex, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at or below -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85613-DRVVT; 85613-DRVVT mix (if appropriate); 85613-DRVVT confirmation (if appropriate); ;

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**DRVT 80340**

**Dilute Russells Viper Venom Time (DRVVT), Plasma**

**Specimen Requirements:** Only orderable as part of a profile. For more information see LUPPR / Lupus Anticoagulant Profile, THRMP / Thrombophilia Profile, or PROCT / Prolonged Clot Time
Profile.

**Transport Temperature:**
Plasma Na Cit  Frozen 14 days

**CPT Code Information:** 85613

**DIPGS**

**Diphtheria Toxoid IgG Antibody, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  30 days
Frozen  30 days

**CPT Code Information:** 86317

**DTABS**

**Diphtheria/Tetanus Antibody Panel, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 1 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  30 days
Frozen  30 days

**CPT Code Information:** 86317 x 2

**FDIPY**

**Dipyridamole, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube(s) is not acceptable.) Spin down and send 2 mL of serum refrigerate in plastic preservative-free vial. Plasma Draw blood in a lavender-top (EDTA), or a Pink top tube(s). (Plasma gel tube(s) is not acceptable.) Spin down and send 2 mL of EDTA plasma refrigerate in plastic preservative-free vial.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
Varies Refrigerated (preferred)  14 days
Frozen  240 days
Ambient  14 days

**CPT Code Information:** 80375
Direct Antiglobulin Test (Polyspecific), Blood

**Specimen Requirements:** Container/Tube: Pink top (EDTA)  
Specimen Volume: 6 mL  
Specimen Minimum Volume: 3 mL  
Neonates: EDTA Micro tube 0.5 mL  
Transport Temperature:  
Whole Blood EDTA  Ambient (preferred)  48 hours  
Refrigerated  48 hours

**CPT Code Information:** 86880

Disaccharidase Analysis

**Specimen Requirements:** Send 5 mg from an intestinal biopsy in a clean, screw-topped plastic vial. Freeze immediately after collection and ship frozen. Note: Specimen should not be placed on gauze, filter paper, nor should any saline, support or embedding material be added.

**Specimen Minimum Volume:** 5 mg wet weight

**Transport Temperature:**  
Tissue Frozen

**CPT Code Information:** 82657

Disaccharidase Panel

**Specimen Requirements:** Send 2.0 - 5.0 mg wet weight, from a small bowel biopsy in a clean, plastic specimen tube. Avoid contamination with traces of the fixative used for surgical pathology biopsies. (Do not send in saline.) Freeze immediately after collection and ship frozen. Note: Tube size should be no more than 15cc to help prevent sample from drying out during transportation.

**Specimen Minimum Volume:** 2.0 mg

**Transport Temperature:**  
Tissue Frozen

**CPT Code Information:** 82657

Distal Myopathy Panel (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81404 x 2; 81405 x 2; 81406 x 4; 81407; 81408 x 2; 81479;

Distal Weakness Expanded Panel (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81325; 81403; 81404 x 13; 81405 x 21; 81406 x 24; 81407 x 5; 81408 x 4; 81479;
Diuretic Screen, Urine

**Specimen Requirements:** 10 mL aliquot of random or spot urine collected without preservative in a plastic container. Send specimen refrigerated.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80377

DMPK DNA Test (DM1)

**Specimen Requirements:** Specimen Type: Whole Blood Container/Tube: Lavender top (EDTA) Specimen volume: 8 mL Collection instructions: Send 8 mL whole blood (lavender-top) EDTA tubes Note: Collection date is required.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**
- Whole Blood EDTA Ambient (preferred) 10 days
- Refrigerated 10 days

**CPT Code Information:** 81401

DNA Analysis, Blood

**Specimen Requirements:** This is a miscellaneous test. Client must indicate specific analysis required. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Specimens preferred to arrive within 96 hours of draw.

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

DNA Double-Stranded (dsDNA) Antibodies by Crithidia luciliae IFA, IgG, Serum

**Specimen Requirements:** Only orderable as reflex. For more information see ADNAR / DNA
Double-Stranded (dsDNA) Antibodies with Reflex, IgG, Serum.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86255

ADNAR 63073 DNA Double-Stranded (dsDNA) Antibodies with Reflex, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86225 x 2

ADNA 8178 DNA Double-Stranded (dsDNA) Antibodies, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86225

DNJB9 71739 DNAJB9 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**Dock Yellow (Rumex crispus) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**Dog Dander, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**DOG-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Donath Landsteiner**

**Specimen Requirements:** Draw blood in a plain red-top tube. Maintain specimen at 37°C until serum is separated from cells. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1.5 mL
**Transport Temperature:**
Serum Red  Refrigerated (preferred)  7 days
Ambient  72 hours

**CPT Code Information:** 86940, 86941

### Dopamine Receptor D3 Genotype, Saliva

**Specimen Requirements:** Multiple saliva genotype tests can be performed on a single specimen after a single extraction. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Supplies: DNA Saliva Collection Kit (T651) Container/Tube: Oragene DNA Self-Collection Kit (T651: fees apply) Specimen Volume: Full tube Collection Instructions: 1. Fill tube to line. 2. Send specimen in original container per kit instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Saliva Ambient

**CPT Code Information:** 81479

### Dopamine Receptor D3 Genotype, Whole Blood

**Specimen Requirements:** Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Whole Blood EDTA  Ambient (preferred)
Refrigerated

**CPT Code Information:** 81479

### Dopamine Receptor D4 Genotype (DRD4), Blood

**Specimen Requirements:** Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Whole Blood EDTA  Ambient (preferred)
Refrigerated
CPT Code Information: 81479

**DRD4O** 60344

**Dopamine Receptor D4 Genotype (DRD4), Saliva**

**Specimen Requirements:** Multiple saliva genotype tests can be performed on a single specimen after a single extraction. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Supplies: DNA Saliva Collection Kit (T651) Container/Tube: Oragene DNA Self-Collection Kit (T651: fees apply) Specimen Volume: Full tube

**Collection Instructions:** 1. Fill tube to line. 2. Send specimen in original container per kit instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Saliva Ambient

CPT Code Information: 81479

**DFIR** 82485

**Douglas Fir, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
 Serum Refrigerated (preferred) 14 days
 Frozen 90 days

CPT Code Information: 86003

**DXPIN** 63507

**Doxepin and Nordoxepin, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose (or at a minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
 Serum Red Refrigerated (preferred) 28 days
 Frozen 28 days
 Ambient 7 days

CPT Code Information: 80335; G0480 (if appropriate);

**CDAUX** 62718

**Drug Abuse Panel with Confirmation, Chain of Custody, Urine**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 364
Specimen Requirements: Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required Specimen Volume: 30 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 30 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 15 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Frozen 14 days
Ambient 72 hours

CPT Code Information: 80307

Drug Abuse Survey with Confirmation, Panel 5, Chain of Custody, Urine

Specimen Requirements: Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required Specimen Volume: 30 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 30 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 15 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Frozen 14 days
Ambient 72 hours

CPT Code Information: 80307

CDA5X
62715

Drug Abuse Survey with Confirmation, Panel 5, Chain of Custody, Urine

Specimen Requirements: Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required Specimen Volume: 30 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 30 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 15 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Frozen 14 days
Ambient 72 hours

CPT Code Information: 80307

CDAU5
80373

Drug Abuse Survey with Confirmation, Panel 5, Urine

Specimen Requirements: Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 30 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 30 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of_custody testing, order CDA5X / Drug Abuse Survey with Confirmation, Panel 5, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 6. Submitting less than 30 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 15 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Frozen 14 days
Drug Abuse Survey with Confirmation, Panel 9, Chain of Custody, Urine

Specimen Requirements: Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required Specimen Volume: 30 mL Collection Instructions: Collect specimen in the provided container, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 30 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 15 mL

Transport Temperature:
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

CPT Code Information: 80307; See individual reflex tests for appropriate CPT codes;

Drug Abuse Survey with Confirmation, Panel 9, Urine

Specimen Requirements: Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 30 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 30 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain-of-custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order CDA7X / Drug Abuse Survey with Confirmation, Panel 9, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 6.Submitting less than 30 mL will compromise our ability to perform all necessary testing.

Specimen Minimum Volume: 15 mL

Transport Temperature:
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

CPT Code Information: 80307

Current as of October 16, 2018 7:53 pm CDT   800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
accepted for this procedure. 3. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 4. Submitting less than 30 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 15 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80307

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**Drug Screen, Prescription/OTC, Chain of Custody, Serum**

**Specimen Requirements:** Supplies: Chain-of-Custody Kit (T282) containing the specimen seals and documentation are required. Container/Tube: Red top; kit contains the specimen seals and documentation required. Preferred: One 10-mL red. Acceptable: One 5-mL red. Specimen Volume: 2.75 mL.

Collection Instructions: Collect specimen, centrifuge within 2 hours of collection and aliquot serum, cap and seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: 1. This test is not appropriate for drugs of abuse/illicit drug testing, including benzodiazepines, opioids, barbiturates, cocaine, amphetamine type stimulants. 2. This test is not appropriate for assessment of therapeutic compliance. 3. Not intended for use in employment-related testing. 4. See Table 1 in Prescription and Over-the-Counter (OTC) Drug Screens in Special Instructions.

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 3 hours

**CPT Code Information:** 80307

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**Drug Screen, Prescription/OTC, Chain of Custody, Urine**

**Specimen Requirements:** Supplies: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 30 mL. Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: 1. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADLTX / Adulterants Survey, Chain of Custody, Urine. For additional information, refer to ADLTX / Adulterants Survey, Chain of Custody, Urine. 2. Submitting less than 30 mL will compromise our ability to perform all necessary testing. 3. Not intended for use in employment-related testing. 4. See Prescription and Over-the-Counter (OTC) Drug Screens in Special Instructions.

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
CPT Code Information: 80307

**DSS**

8421

**Drug Screen, Prescription/OTC, Serum**

*Specimen Requirements:* Container/Tube: Red top Specimen Volume: 2.75 mL Additional Information: 1. This test is not appropriate for drugs of abuse or illicit drug testing, including benzodiazepines, opioids, barbiturates, cocaine, amphetamine type stimulants. 2. This test is not appropriate for assessment of therapeutic compliance. 3. Not intended for use in employment-related testing. 4. For chain-of-custody testing, order DSSX / Drug Screen, Prescription/OTC, Chain of Custody, Serum.

*Specimen Minimum Volume:* 1.1 mL

*Transport Temperature:*
- Serum Red Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 3 hours

CPT Code Information: 80307

**PDSU**

88760

**Drug Screen, Prescription/OTC, Urine**

*Specimen Requirements:* Supplies: Plastic, 60-mL urine bottle (T313) Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 30 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. See Prescription and Over-the-Counter (OTC) Drug Screens in Special Instructions. 2. For chain-of-custody testing, order PDSUX / Drug Screen, Prescription/OTC, Chain of Custody, Urine. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. 3. Not intended for use in employment-related testing. 4. Submitting less than 30 mL will compromise our ability to perform all necessary testing.

*Specimen Minimum Volume:* 1.1 mL

*Transport Temperature:*
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 3 hours

CPT Code Information: 80307

**DSM4X**

62721

**Drugs of Abuse Screen 4, Chain of Custody, Meconium**

*Specimen Requirements:* Container/Tube: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: 1. Specimen that arrives with a broken seal does not meet the chain-of-custody requirements. 2. The laboratory recommends sending chain-of-custody specimens by overnight shipment.

*Specimen Minimum Volume:* 0.45 g (approximately 0.5 teaspoon)
Transport Temperature:
Meconium Frozen (preferred) 14 days
Refrigerated 24 hours

CPT Code Information: 80307

DSM5X 62722
Drugs of Abuse Screen 5, Chain of Custody, Meconium
Specimen Requirements: Container/Tube: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: 1. Specimen that arrives with a broken seal does not meet the chain-of-custody requirements. 2. The laboratory recommends sending chain-of-custody specimens by overnight shipment.
Specimen Minimum Volume: 0.45 g (approximately 0.5 teaspoon)
Transport Temperature:
Meconium Frozen (preferred) 14 days
Refrigerated 24 hours

CPT Code Information: 80307

DASM4 60553
Drugs of Abuse Screen, Meconium 4
Specimen Requirements: Supplies: Stool container, Small (Random), 4 oz (T288) Container/Tube: Stool container (T288) Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen.
Specimen Minimum Volume: 0.45 g (approximately 0.5 teaspoon)
Transport Temperature:
Meconium Frozen (preferred) 14 days
Refrigerated 24 hours

CPT Code Information: 80307; See individual reflex tests for appropriate CPT codes;

DASM5 60250
Drugs of Abuse Screen, Meconium 5
Specimen Requirements: Supplies: Stool container, Small (Random), 4 oz (T288) Container/Tube: Stool container (T288) Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen.
Specimen Minimum Volume: 0.45 g (approximately 0.5 teaspoon)
Transport Temperature:
Meconium Frozen (preferred) 14 days
Refrigerated 24 hours

CPT Code Information: 80307; See individual reflex tests for appropriate CPT codes;
Duchenne/Becker Muscular Dystrophy DMD Gene, Large Deletion and Duplication Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 1 mL Amniotic Fluid: 10 mL Chorionic Villus: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81161-DMD (dystrophin) (eg, Duchenne/Becker muscular dystrophy) deletion analysis and duplication analysis, if performed; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ; Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); ; Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

Duck Feathers, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

Frozen 90 days

**CPT Code Information:** 86003

Duck Meat IgE

**Specimen Requirements:**
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days

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<th>Days</th>
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**CPT Code Information:** 86003

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**DULOX 89305**

**Duloxetine, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: 1. As is the case for most therapeutic drugs, trough specimens are preferred for monitoring duloxetine concentrations and should be drawn immediately before the next scheduled dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 14 days

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<th>Days</th>
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<td>24 hours</td>
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**CPT Code Information:** 80332; G0480 (if appropriate);

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**ECADB 603211**

**E-Cadherin Immunostain, Bone Marrow, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick; B5 fixed, decalcified, paraffin-embedded bone marrow tissue. Acceptable: B5 fixed, decalcified, paraffin-embedded bone marrow tissue block.

**Transport Temperature:**
TECHONLY Ambient (preferred)

<table>
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<tr>
<th>Temperature</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerated</td>
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</table>

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**ECAD 70423**

**E-Cadherin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**EEPC**
83917

**Eastern Equine Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
CSF Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86652 x 2

**EEEP**
83155

**Eastern Equine Encephalitis Antibody, IgG and IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86652 x 2

**ESYC**
82721

**Eastern Sycamore, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003
**ECHNO 64985**

**Echinococcus Antibody, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
- Frozen 30 days

**CPT Code Information:** 86682

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**ECUMP 64722**

**Eculizumab Monitoring Panel, Serum**

**Specimen Requirements:** Patient Preparation: 1. Fasting preferred 2. Recommended timeframe for the blood draw is a trough, or immediately prior to next intravenous infusion. Specimen Type: Serum Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate serum from clot. 3. Freeze specimen within 30 minutes.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red 14 days
- Frozen

**CPT Code Information:** 86160-Complement; antigen, each component; 86161-Complement; functional activity, each component;

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**ECULI 65676**

**Eculizumab, Serum**

**Specimen Requirements:** Patient Preparation: Pembrolizumab/Keytruda must be discontinued at least 4 weeks prior to testing for eculizumab quantitation in serum. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 30 days
- Ambient 4 days

**CPT Code Information:** 80299

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**EGFRT 35404**

**EGFR Gene, Mutation Analysis, 29 Mutation Panel, Tumor**

**Specimen Requirements:** Pathology report must accompany specimen in order for testing to be performed. Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Container/Tube: Slides Specimen Volume: 1 stained and 5 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 5 unstained, non-baked slides with 5-micron thick sections

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of the tumor tissue.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 5 unstained, nonbaked slides with 5-microns thick sections of the tumor tissue.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** EGFR Gene, Mutation Analysis, 29 Mutation Panel, Tumor ; 81235-EGFR (epidermal growth factor receptor) (eg, non-small cell lung cancer) gene analysis, common variants (eg, exon 19 LREA deletion, L858R, T790M, G719A, G719S, L861Q); ; Slide Review; 88381-Microdissection, manual;

**FEGWH 57584**

**Egg White IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

**FEWG4 57529**

**Egg White IgG4**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

**EGG 82872**

**Egg White, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

FWEGG 57940 Egg Whole IgE

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

FEWHG 57530 Egg Whole IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

FEGYK 57582 Egg Yolk IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days
CPT Code Information: 86001

**YOLK**

**Egg Yolk, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**EGGP**

**Eggplant, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**EHRCP**

**Ehrlichia Antibody Panel, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 86666 x 2

**EHRC**

**Ehrlichia chaffeensis (HME) Antibody, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL
**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86666

**EHRL 84319**

**Ehrlichia/Anaplasma, Molecular Detection, PCR, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 7 days
Frozen 7 days

**CPT Code Information:** 87798 x 4

**FELAS 90158**

**Elastase, Pancreatic, Serum**

**Specimen Requirements:** Draw blood in a plain, red-top or a serum gel tube(s). Separate immediately and send 3 mL of serum frozen in a plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Patient preparation: 1. The patient should fast for 10 to 12 hours prior to collection. 2. Medications that affect pancreatic activity should be discontinued, if possible, for at least 48 hours prior to collection of specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum Frozen 180 days

**CPT Code Information:** 83519

**ELDR 82392**

**Elder, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003
Electrolyte and Osmolality Panel, Feces

**Specimen Requirements:** Collection Container/Tube: Stool container (T291) Specimen Volume: 10 g Collection Instructions: Collect a very liquid stool specimen. Additional Information: 1. Do not send formed stool. In the event a formed stool is submitted, the test will not be performed. The report will indicate "A formed stool specimen was submitted for analysis. This test was not performed because it only has clinical value if performed on a watery stool specimen." 2. Osmolality results will be reported as mOsm/kg regardless of collection duration. 3. Sodium, chloride, and potassium will be reported as mmol/L. 4. Magnesium and phosphorus will be reported as mg/dL

**Specimen Minimum Volume:** 5 g

**Transport Temperature:**
- Fecal Frozen (preferred) 14 days
- Refrigerated 7 days
- Ambient 48 hours

**CPT Code Information:** 82438-Chloride; 83735-Magnesium; 84302-Sodium; 84100-Phosphorus; 84999 x 2-Osmolality, Potassium;

Electrolyte Panel, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated 24 hours

**CPT Code Information:** 80051-Electrolyte Panel (if all 4 are performed); 82435-Chloride (if all 4 are not performed); 84295- Sodium (if all 4 are not performed); 84132-Potassium (if all 4 are not performed); 82374-Bicarbonate (if all 4 are not performed);

Electron Microscopy

**Specimen Requirements:** Tumor biopsies must be accompanied by hematoxylin and eosin-stained slides and a paraffin block. Supplies: Electron Microscopy Kit (T660) Specimen Type: Fixed wet tissue Container/Tube: Electron Microscopy Kit (T660) or leak-proof container Specimen Volume: Entire specimen Collection Instructions: Collect specimen according to the instructions in Electron Microscopy Procedures of Handling Specimens for Electron Microscopy in Special Instructions. Do not place on ice, dry ice, or freeze. Additional Information: PATHC / Pathology Consultation may be added if deemed necessary by the reviewing pathologist. Alternative Specimen Type: Whole Blood Note: If test indication is for neuronal ceroid lipofuscinosis (NCL), whole blood may be submitted in lieu of fixed wet tissue. This is only applicable for a presumptive diagnosis of NCL; specimens submitted for any other reason will be rejected. Container/Tube: Electron Microscopy Kit (T660), green top (sodium heparin), or yellow top (ACD [solution B]) Specimen Volume: 5 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
- EM Ambient (preferred)

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Electrophoresis, Protein, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Submission Container/Tube: Plastic, 60-mL urine bottle and plastic, 5-mL tube (T465) Specimen Volume: 50 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Aliquot specimen between containers. 3. Label specimens appropriately (60-mL bottle for protein electrophoresis and 5-mL tube for protein, total). Additional Information: See Urine Preservatives in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 5 days
- Ambient 72 hours

**CPT Code Information:** 84156-Protein, total; 84166-Electrophoresis, protein; 86335-Immunofixation (if appropriate);

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**Electrophoresis, Protein, Body Fluid**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 10 mL Collection Instructions: Centrifuge to remove any cellular material. Additional Information: Indicate specimen source; acceptable body fluid types are peritoneal (abdominal, ascites, paracentesis, peritoneal), pleural (chest, thoracentesis, pleural), drain (drainage, Jackson-Pratt (JP) drain), pericardial, spinal (CSF or ventricular), synovial (joint, knee, elbow), and vitreous fluids

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Body Fluid Refrigerated (preferred) 7 days
  - Frozen 14 days
  - Ambient 72 hours

**CPT Code Information:** 84166, 84157

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**Electrophoresis, Protein, Random, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Submission Container/Tube: Plastic, 60-mL urine bottle and plastic, 5-mL tube (T465) Specimen Volume: 50 mL Collection Instructions: 1. Collect a random urine specimen. 2. Aliquot specimen between containers. 4. Label specimens appropriately (60-mL urine bottle for protein electrophoresis and 5-mL tube for protein, total).

**Specimen Minimum Volume:** 25 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 5 days
Ambient 72 hours

CPT Code Information: 84156-Protein, total; 84166-Electrophoresis, protein;
86335-Immunofixation (if appropriate);

**PEL 80085**

Electrophoresis, Protein, Serum

**Specimen Requirements:** Patient Preparation: Fasting (12 hour) preferred but not required
Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

CPT Code Information: 84155-Protein, total; 84165-Protein, electrophoresis;
86334-Immunofixation (if appropriate);

**SPEP 97408**

Electrophoresis, Protein, Serum

**Specimen Requirements:** Patient Preparation: Fasting (12 hour) preferred but not required
Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

CPT Code Information: 84155; 84165; 84999 (if appropriate); 86334 (if appropriate);

**ELM 82672**

Elm, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days
EMR 113366

EM, Renal Biopsy (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

EMR 113366

G096 65582

Emery-Dreifuss Panel (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

CPT Code Information: 81404; 81405 x 2; 81406; 81479;

FENC 90087

Encainide (Enkaidr), ODE and MODE

**Specimen Requirements:** Submit only 1 of the following: Plasma Draw blood in a green-top (sodium heparin) tube(s). Plasma gel tube is not acceptable. Spin down and send 1 mL of sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s). Serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 72 hours

FENC 90087

ENS1 48401

Encephalopathy, Autoimmune Evaluation, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 72 hours

CPT Code Information: 83519-ACh receptor (muscle) binding antibody; 83519-AChR ganglionic neuronal antibody; 83519-Neuronal VGKC autoantibody; 83519-N-type calcium channel antibody; 83519-P/Q-type calcium channel antibody; 86255-AGNA-1; 86255-Amphiphysin; 86255-ANNA-1;
86255-ANA-2; 86255-ANA-3; 86255-CRMP-5-IgG; 86255-PCA-1; 86255-PCA-2; 86255-PCA-Tr; 86255-AMPAR-Ab; 86255-GABAR-Ab; 86255-NMDAR-Ab; 86341-GAD65; 86255-LG1CC; 86255-CS2CC; 84182-Amphiphysin Western blot (if appropriate); 84182-CRMP-5 Western blot confirmation (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86256-AMPAR-Ab titer (if appropriate); 86256-GABAR-Ab titer (if appropriate); 86256-NMDAR-Ab titer (if appropriate); 86255-NMO/AQP4-IgG FACS titer (if appropriate);

**ENC1**

Encephalopathy, Autoimmune Evaluation, Spinal Fluid

**Specimen Requirements:**
Container/Tube: Sterile vial
Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:**
- 83519-Neuronal VGKC autoantibody; 86255-AGNA-1;
- 86255-Amphiphysin; 86255-ANNA-1; 86255-ANNA-2; 86255-ANNA-3; 86255-CRMP-5-IgG;
- 86255-PCA-1; 86255-PCA-2; 86255-PCA-Tr; 86255-AMPAR-Ab; 86255-GABAR-Ab;
- 86255-NMDAR-Ab; 86341-GAD65; 86255-LG1CC; 86255-CS2CC; 84182-Amphiphysin Western blot (if appropriate); 84182-CRMP-5 Western blot confirmation (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86256-AMPAR-Ab titer (if appropriate); 86256-GABAR-Ab titer (if appropriate); 86256-NMDAR-Ab titer (if appropriate); 86255-NMO/AQP4-IgG FACS titer (if appropriate);

**ESTUF**

Endometrial Stromal Tumors (EST), 7p15 (JAZF1), 6p21.32 (PHF1), 17p13.3 (YWHAE) Rearrangement, FISH, Tissue

**Specimen Requirements:**
Submit only 1 of the following specimens:

- Specimen Type: Tissue
- Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Six consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Three consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:**
- 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);
**Endomysial (EMA) IgG antibody titer**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 3 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Frozen (preferred): 365 days
- Ambient: 30 days
- Refrigerated: 30 days

**CPT Code Information:** 86255 - screen; 86256 â€“ titer (if appropriate);

**Endomysial (IgA), Titer, Serum**

**Specimen Requirements:** Only orderable as a reflex. For more information see EMA / Endomysial Antibodies (IgA), Serum.

**Specimen Minimum Volume:** Adults: 1 mL/Pediatrics: 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 30 days
- Ambient: 14 days

**CPT Code Information:** 86256

**Endomysial Antibodies (IgA), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red Top Specimen Volume: 2 mL

**Specimen Minimum Volume:** Adults: 1 mL/Pediatrics: 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 30 days
- Ambient: 14 days

**CPT Code Information:** 86255-screen; 86256-titer (if appropriate);

**English Plantain, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x
Entamoeba histolytica Antibody, Serum

**Specimen Requirements:**
Container/Tube: Preferred: Serum gel Acceptable: Red top
Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Frozen (preferred) 30 days
Refrigerated 7 days

**CPT Code Information:** 86003

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Entamoeba histolytica Antigen, EIA

**Specimen Requirements:**
Preferred Specimen Type: Unpreserved stool
Supplies: Sterile stool container
Container/Tube: Sterile stool container
Specimen Volume: 2 g

**Specimen Stability Information:**
Frozen Collection Instructions: Collect 2 grams of fresh unpreserved stool in sterile container. Send specimen frozen. NOTE: Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 1 gram

**Transport Temperature:**
Fecal Frozen (preferred) 7 days
Refrigerated 48 hours

**CPT Code Information:** 86753

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Enteric Pathogens Culture, Stool

**Specimen Requirements:**
Patient Preparation: Medications: Do not use antacids, barium, bismuth, antidiarrheal medication, or oily laxatives before collection of specimen. Supplies: C and S vial (T058)
Specimen Type: Preserved Stool
Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S [T058])
Specimen Volume: Representative portion of stool
Collection Instructions: 1. Collect fresh stool and submit 1 gram or 5 mL in container with transport medium. 2. Place stool in preservative within 2 hours of collection. 3. Place vial in a sealed plastic bag.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Fecal Ambient (preferred) 4 days

**CPT Code Information:** 87337
**Enterovirus, Molecular Detection, PCR**

**Specimen Requirements:** Submit a raw clinical sample (not a culture isolate) for enterovirus PCR. This test will detect enterovirus, but will not differentiate viruses in this family or provide serotyping information. Submit only 1 of the following specimens: Specimen Type: Body fluid Sources: Pericardial, peritoneal, or pleural Container/Tube: Sterile container Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Specimen Type: Respiratory Sources: Bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate, swab or washing, throat or nasal swab, sputum, or tracheal aspirate Container/Tube: Sterile container Specimen Volume: 1.5 mL Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Specimen Type: Swab Supplies: Culturette (BBL Culture Swab) (T092) M4-RT (T605) Sources: Dermal, eye, rectal, genital, nasopharyngeal, throat, nasal or urethral Container/Tube: Multimicrobe media (M4-RT) (T605) or similar viral transport media (M4 or M5) Specimen Volume: Entire specimen Collection Instructions: 1. Rectal swab must have no visible stool. 2. Place swab back into multimicrobe media (M4-RT, M4, or M5).

**Specimen Minimum Volume:** Body Fluid or Spinal Fluid: 0.3 mL Respiratory Specimen: 1 mL

**Transport Temperature:**
- Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87498

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**Enterovirus, Molecular Detection, PCR, Plasma**

**Specimen Requirements:** Submit a raw clinical sample (not a culture isolate) for enterovirus PCR. This test will detect enterovirus, but will not differentiate viruses in this family or provide serotyping information. Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: Spin down promptly.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Plasma EDTA Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87498

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**Eosinophil Cationic Protein (ECP)**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 7 days
Frozen 30 days

CPT Code Information: 83520

EOSU 8335

Eosinophils, Urine

Specimen Requirements:
Container/Tube: Unstained slide Specimen Volume: 1 slide
Collection Instructions: 1. Collect a random urine specimen. 2. Spin 10 mL of a random urine collection in centrifuge. 3. Pour off supernatant. Assess urine sediment for presence of white blood cells (WBC). If no WBCs are seen, the eosinophil test cannot be performed. If WBCs are present, prepare slides using the spun sediment. 4. Unstained slide should be prepared within 2 hours of collection. 5. Centrifuge urine in cytospin centrifuge at speed of 750 rpm for 5 minutes. 6. Guidelines for slide preparation. Use the sediment to prepare slides as follows: a. 150 mcL of sample for 1 to 3 WBC/high power field (hpf). b. 100 mcL of sample for moderate to normal sediment (<50 cell/hpf). c. 50 mcL of sample for heavier sediment (>50 cells/hpf). d. 25 mcL for packed fields of sediment. Additional Information: 1. Stained cytospin slides on Mayo Medical Laboratories patients are retained for 7 days. 2. Call 800-533-1710 or 507-266-5700 with questions.

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

CPT Code Information: 85999

FEPHD 90109

Ephedrine, Serum

Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a green-top sodium heparin tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. If specimen is not light protected foil wrap specimen to protect from light. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial. If specimen is not light protected foil wrap specimen to protect from light.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80324; G0480 (if appropriate);

EPUR 82854

Epicoccum purpurascens, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

Frozen 90 days

**CPT Code Information:** 86003

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**Epidermal Nerve Fiber Density Consultation**

**Specimen Requirements:** Preferred: Specimen Type: Skin punch biopsy tissue Collection Instructions: 1. A Skin Punch Biopsy Kit containing fixatives, buffer, and cryoprotectant is required (no substitutions accepted). For ordering information, call 507-284-8065. 2. Prepare and transport specimen per instructions on the Epidermal Nerve Fiber Density Instructions (T703) in Special Instructions. Specimen Stability: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Slides Additional Information: 1. Slides reacted with PGP 9.5, using a PGP 9.5 protocol for visualizing epidermal nerve fibers, are required. 2. Hematoxylin and eosin-stained slides and Congo red-stained slides are optional. Specimen Stability: Ambient (preferred)/Refrigerated Specimen Type: Tissue block and PGP9.5-reacted slides Collection Instructions: 1. Slides reacted with PGP 9.5, using a PGP 9.5 protocol for visualizing epidermal nerve fibers, are required. 2. Tissue block may be used to create hematoxylin and eosin-stained slides and Congo red-stained slides. Visualization of epidermal nerve fibers cannot be done on paraffin blocks. Specimen Stability: Ambient (preferred)/Refrigerated

**Transport Temperature:**
Varies Refrigerated (preferred)

Ambient

**CPT Code Information:** 88305-(if appropriate); 88313-(if appropriate); 88321-(if appropriate); 88323-(if appropriate); 88323-26-(if appropriate); 88325-(if appropriate); 88348-(if appropriate); 88356-(if appropriate); 88342-(if appropriate);

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**Epidermophyton floccosum IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 28 days

**CPT Code Information:** 86003
**Epilepsy, Autoimmune Evaluation, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 83519-ACh receptor (muscle) binding antibody; 83519-AChR ganglionic neuronal antibody; 83519-Neuronal VGKC autoantibody; 83519-N-type calcium channel antibody; 83519-P/Q-type calcium channel antibody; 86255-AGNA-1; 86255-Amphiphysin; 86255-ANNA-1; 86255-ANNA-2; 86255-ANNA-3; 86255-CRMP-5-IgG; 86255-PCA-2; 86255-PCA-Tr; 86255-AMPAR-Ab; 86255-GABAR-Ab; 86255-NMDAR-Ab; 86341-GAD65; 86255-LG1CS; 86255-CS2CS; ; ; 86255-PCA-1 (if appropriate); 84182-Amphiphysin Western blot (if appropriate); 84182-CRMP-5 Western blot confirmation (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86256-AMPAR-Ab titer (if appropriate); 86256-GABAR-Ab titer (if appropriate); 86256-NMDAR-Ab titer (if appropriate); 86256- NMO/AQP4-IgG FACS titer (if appropriate);

**Epilepsy, Autoimmune Evaluation, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 83519-Neuronal VGKC autoantibody; 86255-AGNA-1; 86255-Amphiphysin; 86255-ANNA-1; 86255-ANNA-2; 86255-ANNA-3; 86255-CRMP-5-IgG; 86255-PCA-2; 86255-PCA-Tr; 86255-AMPAR-Ab; 86255-GABAR-Ab; 86255-NMDAR-Ab; 86341-GAD65; 86255-LG1CS; 86255-CS2CS; ; ; 86255-PCA-1 (if appropriate); 84182-Amphiphysin Western blot (if appropriate); 84182-CRMP-5 Western blot confirmation (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86256-AMPAR-Ab titer (if appropriate); 86256-GABAR-Ab titer (if appropriate); 86256-NMDAR-Ab titer (if appropriate); 86256- NMO/AQP4-IgG FACS titer (if appropriate);

**Epithelia Panel # 1**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
**EPIP2 81881**

**Epithelia Panel # 2**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**EMAI 70424**

**Epithelial Membrane Antigen (EMA) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**EBNA2 71487**

**Epstein Barr Nuclear Antigen 2 (EBNA2) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**LMP1I 70502**

**Epstein Barr Virus Latency Membrane Protein 1 (EBV-LMP1) Immunostain, Technical Component Only**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 389
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Epstein-Barr Virus (EBV) Antibody Profile, Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL
Specimen Minimum Volume: 0.6 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 86664-EBNA; 86665 x 2-VCA, IgG and IgM;

Epstein-Barr Virus (EBV) In Situ Hybridization, Technical Component Only
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 4 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88365-TC, primary; 88364-TC, if additional ISH;

Epstein-Barr Virus (EBV), IgG Antibody to Early Antigen, Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL
Specimen Minimum Volume: 0.4 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 14 days
**Epstein-Barr Virus (EBV), Molecular Detection, PCR**

**Specimen Requirements:**
- **Supplies:** Aliquot Tube, 5 mL (T465)
- **Specimen Type:** Fluid
- **Sources:** Spinal fluid, sterile body fluids (peritoneal fluid/ascites, pericardial fluid, pleural fluid/thoracentesis, amniotic, or ocular
- **Preferred:** 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 0.5 mL
- **Collection Instructions:** Do not centrifuge.
- **Supplies:** Aliquot Tube, 5 mL (T465)
- **Specimen Type:** Fluid
- **Sources:** Respiratory; bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Eye swabs and upper respiratory swabs (nasal, throat)
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Upper respiratory swabs
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Nasopharyngeal aspirate or washing
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Bronchial washing, bronchoalveolar lavage
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Nasopharyngeal aspirate
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Bronchial washing
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Bronchoalveolar lavage
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Sputum
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Tracheal aspirate
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Nasal swab
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Throat swab
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL
- **Supplies:** Culturette (BBL Culture Swab) (T092), M4-RT (T605)
- **Specimen Type:** Swab
- **Sources:** Ocular swab
- **Container/Tube:** Preferred: 12 x 75-mm screw cap vial (T465)
- **Acceptable:** Sterile container
- **Specimen Volume:** 1.5 mL

**Specimen Minimum Volume:**
- **Body Fluid, Ocular Fluid, Spinal Fluid:** 0.3 mL
- **Respiratory Specimens:** 1 mL
- **Tissue:** 2 x 2-mm biopsy

**Transport Temperature:**
- Varies
- Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 86663

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**Epstein-Barr Virus DNA Detection and Quantification, Plasma**

**Specimen Requirements:**
- **Collection Container/Tube:** Lavender top (EDTA) Submission Container/Tube: Plastic vial
- **Specimen Volume:** 1.5 mL
- **Collection Instructions:**
  1. Centrifuge blood collection tube per collection tube manufacturer's instructions.
  2. Pour off plasma into aliquot tube.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Plasma EDTA: Frozen (preferred) 30 days
- Refrigerated 7 days

**CPT Code Information:** 87798

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**ERCC-1 Immunostain, Technical Component Only**

**Specimen Requirements:**
- **Supplies:** Immunostain Technical Only Envelope (T693)
- **Specimen Type:** Tissue
- **Sources:** Brain, colon, kidney, liver, lung, etc.
- **Preferred:** Multimicrobe medium (M4-RT) (T605)
- **Acceptable:** Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT [T605], M4 or M5)
- **Specimen Volume:** Entire collection
- **Collection Instructions:** Submit only fresh tissue.

**Specimen Minimum Volume:**
- **Body Fluid, Ocular Fluid, Spinal Fluid:** 0.3 mL
- **Respiratory Specimens:** 1 mL
- **Tissue:** 2 x 2-mm biopsy

**Transport Temperature:**
- Current as of October 16, 2018 7:53 pm CDT
- 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com

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**ERG Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Erythrocytosis Evaluation**

**Specimen Requirements:** A total of 3 specimens are required to perform this profile; all 3 specimens must arrive within 72 hours of draw: -Whole blood EDTA for A2F, HBEL, MASS -Whole blood sodium heparin for P50* -Normal shipping control: Whole blood sodium heparin for P50* *Please note: If no sodium heparin patient or control specimens are received, the P50 test cannot be performed.

Patient: Container/Tube: Lavender top (EDTA) and green top (heparin) Specimen Volume: EDTA: 5 mL Heparin: 4 mL Collection Instructions: 1. Immediately refrigerate specimens after draw. 2. Send specimen in original tube. Do not aliquot. 3. Rubber band patient specimen and control vial together. Normal Shipping Control: Container/Tube: Green top (heparin) Specimen Volume: 4 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated, nonsmoking person at the same time as the patient. 2. Label clearly on outermost label normal control. 3. Immediately refrigerate specimen after draw. 4. Send specimen in original tube. Do not aliquot. 5. Rubber band patient specimen and control vial together.

**Specimen Minimum Volume:** EDTA Blood: 2.5 mL Heparin Blood: 1 mL

**Transport Temperature:**
Control Refrigerated 72 hours
WB Sodium Heparin Refrigerated 72 hours
Whole Blood EDTA Refrigerated 72 hours

**CPT Code Information:** Erythrocytosis Evaluation; 82820-Hemoglobin O2 affinity (p50); 83020-Hemoglobin electrophoresis; 83021-Hemoglobin A2 and F; 83789-Hemoglobin Variant by Mass Spectroscopy (MS), Blood; ; Hemoglobin, Unstable, Blood; 83068 (if appropriate); ; IEF confirms; 82664 (if appropriate); ; Hemoglobin F, Red Cell Distribution, Blood; 88184 (if appropriate); ;

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**Erythropoietin (EPO), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 82668

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**EPOR 61679**

**Erythropoietin Receptor (EPOR) Gene, Exon 8 Sequencing**

**Specimen Requirements:** Only orderable as part of a profile. For more information see HEMP / Hereditary Erythrocytosis Mutations.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Whole blood Refrigerated 30 days

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

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**FFES 91215**

**Estradiol Free, Serum (includes Estradiol and SHBG)**

**Specimen Requirements:** Draw blood in a plain red-top tube (serum gel tube is not acceptable). Spin down, pour off into plastic vial within 1 hour of collection, and send 3 mL serum frozen.

**Specimen Minimum Volume:** 1.5 mL Note: This volume does not allow for repeat testing.

**Transport Temperature:**
- Serum Red Frozen (preferred) 180 days
- Ambient 48 hours
- Refrigerated 48 hours

**CPT Code Information:** 82670 - Estradiol; 84270 - Sex Hormone binding globulin; 84999 - Unlisted chemistry procedure;
Ambient 24 hours

**CPT Code Information:** 82670

**EEST**

**Estradiol, Serum**

**Specimen Requirements:** Container/Tube: Red top Submission Container/Tube: Plastic vial
Specimen Volume: 1.2 mL Collection Instructions: 1. Spin down and remove serum from red blood cells within 2 hours of draw. 2. Aliquot serum to submission container. Additional Information: See Steroid Pathways in Special Instructions.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82670

**UE3**

**Estriol, Unconjugated, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82677

**ESTR**

**Estrogen Receptor (ER) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**Estrogen Receptor 1 (ESR1) Mutation Analysis, Tumor**

**Specimen Requirements:** Preferred: Specimen Type: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable: Slides: 1 stained and 10 unstained slides Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides (nombaked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology slide (Direct smears or ThinPrep) Slides: 1-2 slides Collection Instructions: Submit 1-2 slides stained and coverslipped with at least 5,000 total nucleated cells Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded tissue block (preferred) 1 slide stained with hematoxylin and eosin and 10 unstained, nonbaked slides with 5-microns thick sections of the tumor tissue with at least 6 mm(2) area of tissue (can be over multiple slides from 1 tissue block) and at least 20% tumor cells

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81479; 88381;

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**Estrogen Receptor Beta-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Estrogen/Progesterone Receptor, Semi-Quantitative Immunohistochemistry, Manual**

**Specimen Requirements:** Specimen Type: Breast carcinoma Preferred: A paraffin-embedded tissue block containing in-situ, invasive or metastatic breast carcinoma tissue that has been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours and shipped at ambient temperature Acceptable: 3 unstained sections, containing carcinoma, on charged slides cut at 4 microns <1 month ago and shipped at ambient temperature Supplies: Pathology Packaging Kit (T554) Specimen Type: Non-breast carcinoma Preferred: A paraffin-embedded tissue block containing carcinoma tissue that has been fixed in 10% neutral buffered formalin and shipped at ambient temperature Acceptable: 3 unstained sections, containing carcinoma, on charged slides cut at 4 microns <1 month ago and shipped at ambient temperature Container/Tube: Pathology Packaging Kit (T554) Collection Instructions: Submit paraffin-embedded carcinoma tissue. Additional Information: 1. When ordering ERPR / Estrogen/Progesterone Receptor, Semi-Quantitative Immunohistochemistry, Manual, the following questions, as stated on the order form or presented electronically, must be

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answered: a. "Was specimen fixed in 10% neutral buffered formalin within 1 hour from surgical collection time? Yes, No, or Unknown." b. "Has specimen been fixed in 10% neutral buffered formalin for 6 to 72 hours? Yes, No, or Unknown." 2. According to the College of American Pathologists (CAP)/American Society of Clinical Oncology (ASCO) guidelines, estrogen/progesterone receptor protein immunohistochemical test results are only valid for nondecalcified, paraffin-embedded specimens fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total time of 6 to 72 hours. Delay to fixation, under-or overfixation may affect these results. 3. Paraffin blocks will be returned with final report.

**Transport Temperature:**
Special Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88360 x 2

**ESTF 84230**

**Estrogens, Estrone (E1) and Estradiol (E2), Fractionated, Serum**

**Specimen Requirements:** Container/Tube: Red top Submission Container/Tube: Plastic vial
Specimen Volume: 1.2 mL Collection Instructions: 1. Spin down and remove serum from red blood cells within 2 hours of draw. 2. Aliquot serum to submission container.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

**CPT Code Information:** 82670-Estradiol; 82679-Estrone; ; When performed together as test ESTF;; 82671 Estrogens, fractionated;

**E1 81418**

**Estrone, Serum**

**Specimen Requirements:** Container/Tube: Red top Submission Container/Tube: Plastic vial
Specimen Volume: 1.2 mL Collection Instructions: 1. Spin down and remove serum from red blood cells within 2 hours of draw. 2. Aliquot serum to submission container. Additional Information: See Steroid Pathways in Special Instructions.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

**CPT Code Information:** 82679

**ALC 8264**

**Ethanol, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Grey top (potassium oxalate/sodium
fluoride) Acceptable: Any anticoagulant Specimen Volume: 2 mL Collection Instructions: Specimen must be sent in original tube.

**Specimen Minimum Volume:** 0.5 mL or amount to fill 1 tube

**Transport Temperature:**
- Whole Blood NaFl-KOx Refrigerated (preferred) 72 hours
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80320; G0480 (if appropriate);

**Ethanol, Chain of Custody, Blood**

**Specimen Requirements:** Supplies: Chain-of-Custody Kit (T282) Container/Tube: Chain-of-Custody Kit (T282) containing the specimen container seals and documentation required. Preferred: Grey top (potassium oxalate/sodium fluoride) Acceptable: Any anticoagulant Specimen Volume: 2 mL Collection Instructions: 1. Do not use alcohol to clean arm. Use alternative such as Betadine to cleanse arm before collecting any specimen for volatile testing. 2. Specimen must be sent in original tube. Collect specimen, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing.

**Specimen Minimum Volume:** 0.5 mL or amount to fill 1 tube

**Transport Temperature:**
- Whole Blood NaFl-KOx Refrigerated (preferred) 72 hours
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80320; G0480 (if appropriate);

**Ethanol, Serum**

**Specimen Requirements:** Patient Preparation: Do not use alcohol to clean arm. Use alternative such as Betadine to cleanse arm before collecting any specimen for volatile testing. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 72 hours
- Frozen 28 days
- Ambient 24 hours

**CPT Code Information:** 80307

**Ethosuximide, Serum**

**Specimen Requirements:**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
- Frozen: 28 days
- Ambient: 14 days

**CPT Code Information:** 80168

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**ETHO**

**Ethotoin (Peganone)**

**Specimen Requirements:** Submit only 1 of the following specimens Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in plastic vial. Serum Draw in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days
- Frozen: 180 days
- Ambient: 72 hours

**CPT Code Information:** 80339

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**ETGS**

**Ethyl Glucuronide Screen, Urine**

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order ETGX / Ethyl Glucuronide Confirmation, Chain of Custody, Urine. 2. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULU / Adulterants Survey, Urine or ADULT / Adulterants Survey, Urine. 3. For additional information, refer to ADULU / Adulterants Survey, Urine or ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 28 days
- Frozen: 28 days
- Ambient: 72 hours

**CPT Code Information:** 80307

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**ETGL**

**Ethylene Glycol, Serum**
**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL  
**Specimen Minimum Volume:** 0.3 mL  
**Transport Temperature:**  
- Serum Red Refrigerated (preferred) 14 days  
- Ambient 14 days  
- Frozen 14 days  

**CPT Code Information:** 80320; G0480 (if appropriate);  

**EOXD**  
**82767**  
**Ethylene Oxide, IgE**  
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.  
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space  
**Transport Temperature:**  
- Serum Refrigerated (preferred) 14 days  
- Frozen 90 days  

**CPT Code Information:** 86003  

**ETVBF**  
**64338**  
**ETV6 (12p13.2) Rearrangement, FISH**  
**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.  
**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL  
**Transport Temperature:**  
- Varies Ambient (preferred)  
- Refrigerated  

**CPT Code Information:** 88271x2, 88291 - DNA probe, each (first probe set), Interpretation and report; 88271x2 - DNA probe, each; each additional probe set (if appropriate); 88271x1 - DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 - DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 - DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 - Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 - Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 - Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);
ETV6F
63433

ETV6 (12p13.2) Rearrangement, FISH, Tissue

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue

Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block

Specimen Type: Slides

Specimen Volume: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

Tissue

Ambient (preferred)

Refrigerated

CPT Code Information:

88271x2, 88291 - DNA probe, each (first probe set), Interpretation and report; 88271x2 - DNA probe, each; each additional probe set (if appropriate); 88271x1 - DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 - DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 - DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 - Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 - Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 - Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

EUCL
82758

Eucalyptus, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested

Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

Serum

Refrigerated (preferred) 14 days

Frozen 90 days

CPT Code Information: 86003

FECLT
57810

Euglobulin Clot Lysis Time

**Specimen Requirements:** Collect blood in 3.2% sodium citrate light blue top tube. Centrifuge within 30 minutes after collection, freeze immediately. Send 2 mL platelet-poor plasma in plastic vial frozen. Note: 1. Prohibit exercise prior to drawing sample. 2. To avoid release of plasminogen activator, do not massage vein vigorously, pump fist excessively or leave tourniquet in place for a prolonged period.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Plasma Na Cit Frozen 21 days

CPT Code Information: 85360
**Euroglyphus maynei, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**European Hornet, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Everolimus, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. Do not centrifuge. 3. Send specimen in original tube. Additional Information: Therapeutic range applies to trough specimens drawn immediately prior to a.m. dose.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 7 days

**CPT Code Information:** 80169

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**Ewing Sarcoma (EWS), 22q12 (EWSR1) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE)
tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
- Tissue Ambient  
  (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 DNA probe, each (first probe set), Interpretation and report; 88271x2 DNA probe, each; each additional probe set (if appropriate); 88271x1 DNA probe, each; each additional probe set (if appropriate); 88271x2 DNA probe, each; each additional probe set (if appropriate); 88271x3 DNA probe, each; each additional probe set (if appropriate); 88274 w/modifier 52 Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 DNA probe, each; Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 DNA probe, each; Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**EWS 35331**

**Ewing Sarcoma, by Reverse Transcriptase PCR (RT-PCR)**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue with a minimum of 5% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 5% tumor cell population; slides may be stained and/or scraped Slides: A minimum of ten, 4-to 5-micron thick, unstained slides are required.

**Transport Temperature:**
- Varies Ambient  
  (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81401-EWSR1/FLI1; 81401-EWSR1/ERG; 88381-Microdissection, manual;

**FACT 61620**

**F-Actin Ab, IgG, S**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days

**CPT Code Information:** 83516
F2-Isoprostanes, Urine

**Specimen Requirements:** Patient Preparation: Patient should not have taken nonsteroidal anti-inflammatory drugs within 72 hours or aspirin within 2 weeks prior to collection of a specimen. Container/Tube: Plastic, 5-mL urine tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred): 7 days
- Frozen: 90 days
- Ambient: 7 days

**CPT Code Information:** 82542

Fabry Disease, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) tube or yellow top (ACD) tube Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches-3 mm diameter

**Transport Temperature:** Varies

**CPT Code Information:** 81405-GLA (galactosidase, alpha) (eg, Fabry disease), full gene sequence

Factor 13a (FAC13A) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
**TECHONLY Ambient**
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**FACR8 70430**

**Factor 8 Related Antigen (FAC8) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**F2_IS 7806**

**Factor II Inhibitor Screen**

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85335

**F9INH 83103**

**Factor IX Inhibitor Evaluation**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Fasting preferred Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at < or =-40 degrees C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 2 mL in 2 plastic vials, 1 mL each

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85250-Factor IX activity assay; 85335-Bethesda titer (if appropriate); 85335-Factor IX inhibitor screen (if appropriate); 85390-26-Special coagulation interpretation (if appropriate);
**Factor IX Inhibitor Screen**

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85335

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**Factor IX Known Mutation Sequencing**

**Specimen Requirements:** Only orderable as a reflex at order entry for unit code FIXKM / Hemophilia B, Factor IX Gene Known Mutation Screening (Carrier Detection).

**Transport Temperature:**
Varies

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**Factor IX Mut Scrn Gene Sequencing**

**Specimen Requirements:** Only orderable as a reflex at order entry for test FIXMS / Hemophilia B, Factor IX Gene Mutation Screening.

**Transport Temperature:**
Varies

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**Factor V Inhibitor Screen**

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85335

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**Factor V Leiden (R506Q) Mutation, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD) Acceptable: EDTA or sodium citrate Specimen Volume: Full tube Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Can be combined with other molecular coagulation tests; -MTHAC 5,10-Methylenetetrahydrofolate Reductase A1298C, Mutation, Blood -PTNT Prothrombin G20210A Mutation, Blood -MTHFR 5,10-Methylenetetrahydrofolate Reductase C677T, Mutation, Blood -MTHP 5,10-Methylenetetrahydrofolate Reductase C677T and A1298C Mutations, Blood

**Specimen Minimum Volume:** 1 mL blood in a 3-mL ACD tube
Transport Temperature:
Whole blood  Ambient (preferred)  7 days
Frozen  14 days
Refrigerated  14 days

CPT Code Information: 81241-F5 (coagulation factor V) (eg, hereditary hypercoagulability) gene analysis, Leiden variant ; ;

**F7 IS**
Factor VII Inhibitor Screen
Specimen Minimum Volume: 2 mL
Transport Temperature:
Plasma Na Cit  Frozen 14 days

CPT Code Information: 85335

**F8INH**
Factor VIII Inhibitor Evaluation
Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Fasting preferred Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Centrifuge, remove plasma, and centrifuge plasma again. 3. Freeze plasma immediately (no longer than 4 hours after collection) at -20°C or, ideally, ≤ -40 degrees C. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If a priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial.
Specimen Minimum Volume: 2 mL
Transport Temperature:
Plasma Na Cit  Frozen 14 days

CPT Code Information: 85240-Factor VIII activity assay; 85335-Bethesda titer (if appropriate); 85335-Factor VIII inhibitor screen (if appropriate); 85390-26-Special coagulation interpretation (if appropriate);

**10 IS**
Factor X Inhibitor Screen
Specimen Minimum Volume: 2 mL
Transport Temperature:
Plasma Na Cit  Frozen 14 days

CPT Code Information: 85335

**11 IS**
Factor XI Inhibitor Screen
Specimen Minimum Volume: 2 mL
Transport Temperature:
Plasma Na Cit Frozen 14 days

CPT Code Information: 85335

**Factor XIII, Functional**

Specimen Requirements: 1 mL platelet-poor plasma, shipped frozen. Draw blood into a 3.2% sodium citrate (light blue-top) tube. Centrifuge light blue-top tube 15 minutes at approx. 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Plasma must be free of platelets (<10,000/mcl). Freeze immediately. Note: Note oral anticoagulant therapy

Specimen Minimum Volume: 0.3 mL
Transport Temperature:
Plasma Na Cit Frozen 14 days

CPT Code Information: 85290

**Factor XIII, Qualitative, with Reflex to Factor XIII 1:1 Mix**

Specimen Requirements: Draw one 5 mL lt. blue (sodium citrate) tube. Separate immediately and submit 2 mL platelet-poor plasma, ship frozen. Note: Critical frozen. Separate specimens must be submitted when multiple tests are ordered.

Specimen Minimum Volume: 1 mL
Transport Temperature:
Plasma Na Cit Frozen 14 days

CPT Code Information: 85291/Factor XIII; 85291/1:1 Mix (if appropriate);

**False Oat Grass, IgE**

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003
False Ragweed, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

Familial Dysautonomia, Mutation Analysis, IVS20(+6T->C) and R696P

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2.6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Prenatal Specimens Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 0.5 mL; Amniotic Fluid: 10 mL; Chorionic Villi: 5 mg

**Transport Temperature:** Varies

**CPT Code Information:** 81260-IKBKAP (inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase complex-associated protein) (eg, familial dysautonomia) gene analysis, common variants (eg, 2507+6T->C, R696P); 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zyosity testing or maternal cell contamination of fetal cells (if appropriate); Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate);

Familial Hypercholesterolemia and Related Disorders Multi-Gene Panel

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient
Specimen Minimum Volume: Whole blood: 1 mL

Transport Temperature:
Varies

CPT Code Information: 81479; 81406 x 2;

Familial Mutation, Targeted Testing

Specimen Requirements: Refer to Advisory Information for a complete list of genes tested by specimen type. Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Blood spot Supplies: Card-Blood Spot (Filter Paper) (T493) Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Card-Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions. Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Minimum Volume: Amniotic Fluid: 10 mL Blood: 1 mL Chorionic Villi: 5 mg Blood Spots: 2

Transport Temperature:
Varies

Fanconi Anemia C Mutation Analysis, IVS4(+4)A->T and 322delG
Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Yellow top (ACD) or lavender top (EDTA) Acceptable: Any anticoagulant Specimen Volume: 2.6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Prenatal Specimens Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15 mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Minimum Volume: Blood: 0.5 mL; Amniotic Fluid: 10 mL; Chorionic Villi: 5 mg

Transport Temperature:

Varies

CPT Code Information: 81242-FANCC (Fanconi anemia, complementation group C) (eg, Fanconi anemia, type C) gene analysis, common variant (eg, IVS4+4A->T); 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); 88240-Cryopreservation (if appropriate); 88240-Cryopreservation (if appropriate); 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

Fascin Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25-x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:

TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Fat, Feces

Specimen Requirements: Patient Preparation: 1. For 3 days prior to and during the collection period: a. Patient should be on a fat-controlled diet (100-150 g fat per day). b. No laxatives (particularly mineral oil and castor oil). c. No synthetic fat substitutes (eg, Olestra) or fat-blocking nutritional supplements. 2. The use of diaper rash ointments will falsely elevate test results. Discontinue use during collection period. 3. Barium interferes with test procedure; a waiting period of 48 hours before stool collection analysis is recommended. Supplies: Stool Containers - 24, 48, 72 Hours Kit (T291) Container/Tube: Stool container (T291); complies with shipping requirements, do not use other containers. Specimen Volume: Preferred: Entire 48-, or 72-hour collection Acceptable: Entire 24-hour or
random collection Collection Instructions: 1. All containers must be sent together. 2. The entire collection must contain at least 5 g of feces. 3. For a random collection, a minimum of 5 g (do not send entire collection) is required. 4. The number of containers sent should be indicated on the labels (1 of 4, for example). Additional Information: 1. Patient can store sample at refrigerate temperature during collection period. 2. A separate order and collection should take place if stool bicarbonate, calcium, chloride, magnesium, osmolality, pH, potassium, sodium, or any microbiology testing is desired.

**Specimen Minimum Volume:** 5 g

**Transport Temperature:**
- Fecal Frozen (preferred) 180 days
- Refrigerated 180 days

**CPT Code Information:** 82710

### Fatty Acid Oxidation Probe Assay, Fibroblast Culture

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts
- Container/Tube: T-75 or T-25 flask
- Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks

Specimen Stability Information: Ambient (preferred)/Refrigerated 24 hours

Specimen Type: Skin biopsy
- Supplies: Fibroblast Biopsy Transport Media (T115)
- Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640).

The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch

**Specimen Stability Information:** Refrigerated (preferred)/Ambient

**Transport Temperature:**
- Tissue Varies

**CPT Code Information:** 82017-Acylcarnitines; quantitative, each specimen; 88233-Fibroblast culture; 88240-Cryopreservation for biochemical studies;

### Fatty Acid Profile, Comprehensive (C8-C26), Plasma

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Green top (sodium heparin)
- Acceptable: EDTA or lithium heparin
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

Collection Instructions: 1. Fasting overnight (12-14 hours). 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. 3. Spin down within 45 minutes of draw.

**Specimen Stability Information:**
- 1. Patient's age is required. 2. Include information regarding treatment, family history, and tentative diagnosis.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Plasma Frozen (preferred) 92 days
- Refrigerated 72 hours

**CPT Code Information:** 82542

### Fatty Acid Profile, Comprehensive (C8-C26), Serum

**Specimen Requirements:** Patient Preparation: 1. Patient should fast overnight (12-14 hours). 2.
Patient must not consume any alcohol for 24 hours before the specimen is drawn. Collection
Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL Collection Instructions: Spin down within 45 minutes of draw.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Frozen (preferred) 92 days
Refrigerated 72 hours

**CPT Code Information:** 82542

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### Fatty Acid Profile, Essential, Plasma

**PFAPE**

**Specimen Requirements:** Collection Container/Tube: Preferred: Green top (sodium heparin)
Acceptable: EDTA or lithium heparin Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Fasting overnight (12-14 hours). 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. 3. Spin down within 45 minutes of draw. Additional Information: 1. Patient's age is required. 2. Include information regarding treatment, family history, and tentative diagnosis.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Plasma Frozen (preferred) 92 days
Refrigerated 72 hours

**CPT Code Information:** 82542

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### Fatty Acid Profile, Essential, Serum

**FAPEP**

**Specimen Requirements:** Patient Preparation: 1. Patient should fast overnight (12-14 hours). 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Spin down within 45 minutes of draw.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Frozen (preferred) 92 days
Refrigerated 72 hours

**CPT Code Information:** 82542

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### Fatty Acid Profile, Mitochondrial (C8-C18), Serum

**FAPM**

**Specimen Requirements:** Patient Preparation: 1. Patient should fast overnight (12-14 hours). 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Spin down within 45 minutes of draw.

**Specimen Minimum Volume:** 0.15 mL
**Transport Temperature:**
Serum Frozen (preferred) 92 days
Refrigerated 72 hours

**CPT Code Information:** 82542

**POXP**

**Fatty Acid Profile, Peroxisomal (C22-C26), Plasma**

**Specimen Requirements:** Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: EDTA or lithium heparin Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Fasting-overnight (12-14 hours). 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. 3. Spin down within 45 minutes of draw. Additional Information: 1. Patient's age and gender is required. 2. Include information regarding treatment, family history, and tentative diagnosis.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Plasma Frozen (preferred) 92 days Refrigerated 15 days

**CPT Code Information:** 82726

**POX**

**Fatty Acid Profile, Peroxisomal (C22-C26), Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Fasting-overnight (12-14 hours). 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. 3. Spin down within 45 minutes of draw. Additional Information: 1. Patient's age and gender is required. 2. Include information regarding treatment, family history, and tentative diagnosis.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Frozen (preferred) 92 days Refrigerated 15 days

**CPT Code Information:** 82726

**FBN1B**

**FBN1 Full Gene Sequence, Varies**

**Specimen Requirements:** Prior Authorization is available for this test. Submit the required form with the specimen. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 4 days/Refrigerated 14 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated
**FETH2 81880**

**Feather Panel # 2**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 81408

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**LEU 8046**

**Fecal Leukocytes**


**Specimen Minimum Volume:** NA

**Transport Temperature:**
- Fecal Ambient (preferred) 21 days
- Refrigerated 21 days

**CPT Code Information:** 89055

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**FOBT 60693**

**Fecal Occult Blood, Colorectal Cancer Screen, Qualitative, Immunochemical**

**Specimen Requirements:** Supplies: T682 Fecal Occult Blood Test Kit Container/Tube: Fecal Occult Blood Test Kit (T682) Specimen Volume: Sample must fill the grooved portion of the sample probe Collection Instructions: 1. Collect a random stool specimen. 2. See Fecal Occult Blood Test Kit (T682) package insert for instructions. 3. Specimen must be collected in specific sample vial within 4 hours of defecation.

**Specimen Minimum Volume:** Sample must cover the entire grooved portion of the sample probe.

**Transport Temperature:**
- Fecal Refrigerated (preferred) 30 days
- Ambient 15 days

**CPT Code Information:** 82274; G0328-Government payers (if appropriate);
Felbamate (Felbatol), Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. Spin down and separate serum from cells within 2 hours of draw. 3. Remove serum from serum gel tube if applicable.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80299

Fennel Seed, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Fentanyl and Metabolite, Chain of Custody, Serum

**Specimen Requirements:** Container/Tube: Red top; Chain-of-Custody Kit (T282) containing the specimen seals and documentation required. Specimen Volume: 2.3 mL Collection Instructions: Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 1.25 mL

**Transport Temperature:**
- Serum Red Frozen (preferred) 14 days
  - Refrigerated 14 days
  - Ambient 72 hours

**CPT Code Information:** 80354; G0480 (if appropriate);

Fentanyl Screen with Reflex, Urine

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission
Container/Tube: Plastic, 60-mL urine bottle
Specimen Volume: 20 mL
Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative.
Additional Information: 1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order FENTX / Fentanyl with Metabolite Confirmation, Chain of Custody, Urine. 2. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULU / Adulterants Survey, Urine or ADULT / Adulterants Survey, Urine. 3. For additional information, refer to ADULU / Adulterants Survey, Urine or ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80307

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**FENS 63060**

**Fentanyl Screen, Urine**

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL
Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative.
Additional Information: 1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order FENTX / Fentanyl with Metabolite Confirmation, Chain of Custody, Urine. 2. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULU / Adulterants Survey, Urine or ADULT / Adulterants Survey, Urine. 3. For additional information, refer to ADULU / Adulterants Survey, Urine or ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80307

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**FENTX 62726**

**Fentanyl with Metabolite Confirmation, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL
Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
**FENTU 89655**

**Fentanyl with Metabolite Confirmation, Urine**

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order FENTX / Fentanyl with Metabolite Confirmation, Chain of Custody, Urine. 4. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 5. Submitting less than 3 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
  - Frozen 14 days
  - Ambient 72 hours

**CPT Code Information:** 80354; G0480 (if appropriate);

**FENTS 89654**

**Fentanyl, Serum**

**Specimen Requirements:** Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 2.3 mL Collection Instructions: 1. Spin down and remove serum from red blood cells within 2 hours of draw. 2. Aliquot serum to submission container.

**Specimen Minimum Volume:** 1.25 mL

**Transport Temperature:**
- Serum Red Frozen (preferred) 28 days
  - Refrigerated 14 days
  - Ambient 72 hours

**CPT Code Information:** 80354; G0480 (if appropriate);

**FEET 82143**

**Ferret Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days

**CPT Code Information:** 80354; G0480 (if appropriate);
### Ferritin, Serum

**CPT Code Information:** 86003

#### Specimen Requirements:
- **Container/Tube:** Preferred: Serum gel  
  Acceptable: Red top
- **Volume:** 0.6 mL
- **Collection Instructions:**
  1. Serum gel tubes should be centrifuged within 2 hours of collection.
  2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

#### Specimen Minimum Volume:
- 0.5 mL

#### Transport Temperature:
- Serum Refrigerated (preferred)  
  7 days
- Frozen  
  90 days

### Ferrochelatase (FECH) Gene, Full Gene Analysis

**CPT Code Information:** 82728

#### Specimen Requirements:
- **Patient Preparation:** A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens:
  - **Preferred:** Whole blood
  - **Container/Tube:** Lavender top (EDTA) or yellow top (ACD)
  - **Specimen Volume:** 3 mL
  - **Collection Instructions:**
    1. Invert several times to mix blood.
    2. Send specimen in original tube.

#### Specimen Stability Information:
- Ambient (preferred)/Refrigerated

#### Specimen Supplies:
- **Blood spot Supplies:** Card - Blood Spot Collection (Filter Paper) (T493)  
  - **Container/Tube:** Preferred: Collection card (Whatman Protein Saver 903 Paper)  
    Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493)
  - **Specimen Volume:** 2 to 5 Blood spots on collection card
  - **Collection Instructions:**
    1. An alternative blood collection option for a patient >1 year of age is finger stick.
    2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours.
    3. Do not expose specimen to heat or direct sunlight.
    4. Do not stack wet specimens.
    5. Keep specimen dry.

#### Specimen Minimum Volume:
- Blood: 1 mL
- Blood Spots: 5 punches-3 mm diameter

#### Transport Temperature:
- Varies

### Fetomaternal Bleed, Flow Cytometry, Blood

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

#### Specimen Requirements:
- **Container/Tube:** Lavender top (EDTA)
- **Specimen Volume:** Full tube
- **Collection Instructions:**
  1. Do not centrifuge or aliquot.
  2. Invert several times to mix blood.
  3. Send specimen in original tube.

#### Specimen Minimum Volume:
- 1 mL

#### Transport Temperature:
- Varies
Whole Blood EDTA Refrigerated (preferred) 5 days
Ambient 5 days

CPT Code Information: 88184-Flow cytometry, cell surface, cytoplasmic

FMBNY 30320

Fetomaternal Bleed, New York

Specimen Requirements: Container/Tube: Lavender top (EDTA) Specimen Volume: Full tube Collection Instructions: 1. Do not centrifuge or aliquot. 2. Invert several times to mix blood. 3. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred) 5 days
Ambient 5 days

CPT Code Information: 88184-Flow cytometry; cell surface cytoplasmic

FGF1F 58124

FGFR1 (8p11.2) Amplification, FISH, Tissue

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide

Specimen Minimum Volume: Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

Transport Temperature:
Tissue Ambient (preferred)
Refrigerated

CPT Code Information: 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

FGFRF 35271

FGFR1 (8p11.2) Rearrangement, FISH

Specimen Requirements: Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other
anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL

**Transport Temperature:**

Varies Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88271x2, 88291 - DNA probe, each (first probe set), Interpretation and report; 88271x2 - DNA probe, each; each additional probe set (if appropriate); 88271x1 - DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 - DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 - DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 - Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 - Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 - Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**FGFR2 (10q26.1) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Specimen Type: Slides Specimen Volume: Four consecutive, unstained, 5-micron thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

Tissue Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88271x2, 88291 - DNA probe, each (first probe set), Interpretation and report; 88271x2 - DNA probe, each; each additional probe set (if appropriate); 88271x1 - DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 - DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 - DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 - Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 - Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 - Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**MSFGN (113012)**

**Fibrillary Glomerulonephritis Confirmation, Paraffin, LC-MS/MS**

**Specimen Requirements:** Supplies: Pathology Packaging Kit (T554) Specimen Type: Formalin-fixed or B5-fixed, paraffin-embedded tissue block Container/Tube: Pathology Packaging Kit Collection Instructions: 1. Do not send fixed tissue slides. Testing can only be done on paraffin-embedded tissue blocks. 2. Attach the green pathology address label included in the kit to the outside of the transport container.

**Transport Temperature:**
Fibrinogen Alpha-Chain (FGA) Gene, Full Gene Analysis

Specimen Requirements:  Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Varies Ambient  (preferred)
Frozen
Refrigerated

CPT Code Information: 81479-Unlisted molecular pathology procedure

Fibrinogen Antigen, Plasma

Specimen Requirements:  Collection Container/Tube: Light-blue top (3.2% sodium citrate at 9:1 ratio) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Plasma Na Cit  Refrigerated (preferred)  14 days
Frozen  30 days
Ambient  72 hours

CPT Code Information: 85385

Fibrinogen, Plasma

Specimen Requirements:  Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (3.2% sodium citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down, remove plasma and spin plasma again. Additional Information: Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Plasma Na Cit  Frozen (preferred)  14 days
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Specimen Requirements</th>
<th>Transport Temperature</th>
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<tr>
<td>FIBC</td>
<td>Fibrinogen, Plasma</td>
<td>Only orderable as part of a profile. For more information, see: BDIAL / Bleeding Diathesis Profile, Limited PROCT / Prolonged Clot Time Profile THRMP / Thrombophilia Profile</td>
<td>Plasma Na Cit  Frozen 14 days</td>
<td>85384</td>
</tr>
<tr>
<td>FIBR</td>
<td>Fibroblast Culture</td>
<td>Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks</td>
<td>Tissue Varies</td>
<td>85384</td>
</tr>
<tr>
<td>CULFB</td>
<td>Fibroblast Culture for Genetic Testing</td>
<td>Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Autopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 4-mm diameter</td>
<td></td>
<td>35257</td>
</tr>
</tbody>
</table>
antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis.

**Transport Temperature:**

Tissue Refrigerated

(preferred)

Ambient

**CPT Code Information:** 88233; 88240;

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**FGF23**

**88662**

**Fibroblast Growth Factor 23 (FGF23), Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Plasma EDTA Frozen (preferred) 90 days

Refrigerated 14 days

**CPT Code Information:** 83520

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**FGFRC**

**71483**

**Fibroblast Growth Factor Receptor 1 (FGFR1) IHC, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient

(preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**PRKAF**

**64777**

**Fibrolamellar Carcinoma, 19p13.1 (PRKACA) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Specimen Type: Slides Slides/Slide Count: Three consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
CPT Code Information: 88271x2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271x2-DNA probe, each; each additional probe set (if appropriate); 88271x1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274-w/modifier 52 -Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate) ; 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

FIBRO 38292

FibroTest-ActiTest, Serum

Specimen Requirements: Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Amber vial (T192) Specimen Volume: 3 mL Collection Instructions: Centrifuge and aliquot within 2 hours of collection.

Specimen Minimum Volume: 1.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 14 days
Ambient 24 hours

CPT Code Information: 0001M; ; OR; 82172; 83883; 83010; 84460; 82977; 82247;

FIGE 57916

Fig (Ficus carica) IgE

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

FFAG4 57875

Filaria IgG4 Antibody, ELISA

Specimen Requirements: Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.2 mL serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.1 mL

Transport Temperature:
**Filaria, Blood**

**Specimen Requirements:** Container/Tube: Light-blue top (sodium citrate) Specimen Volume: 4.5 mL Collection Instructions: Certain of the microfilariae have a nocturnal periodicity, and the blood specimen is best taken at night between 10 p.m. and 2 a.m.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Whole Blood Na Cit Ambient (preferred) 72 hours
- Refrigerated 72 hours

**CPT Code Information:** 86682

**FINCH 82146**

**Finch Feathers, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**FANT 82698**

**Fire Ant, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003
Firebush (Kochia), IgE

**Specimen Requirements:**
- **Container/Tube:** Preferred: Red top Acceptable: Serum gel
- **Specimen Volume:** 0.5 mL for each 5 allergens requested
- **Additional Information:** Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:**
- For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

First Trimester Maternal Screen

**Specimen Requirements:**
- Approval to send specimen for first-trimester screening is required and may take up to 5 business days to complete. Nuchal translucency (NT) measurements are only accepted from NT-certified sonographers. Do not send specimen to Mayo Medical Laboratories if the sonographer is not NT-certified or before completing the application process. See Maternal Screening: Sonographer Approval Process link or complete the NT/CRL Data for First Trimester/Sequential Maternal Screening form in Special Instructions.
- **Container/Tube:** Preferred: Red top Acceptable: Serum gel
- **Specimen Volume:** 1 mL
- **Collection Instructions:** Immediately spin down.
- **Additional Information:**
  1. Blood draw and ultrasound must be completed between 10 weeks, 0 days and 13 weeks, 6 days, which corresponds to a crown-rump length (CRL) range of 31 to 80 mm. 2. Initial or repeat testing is determined in the laboratory at the time of report and will be reported accordingly. To be considered a repeat test for the patient, the testing must be within the same pregnancy and trimester, with interpretable results for the same test and both tests are performed at Mayo Clinic.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 81508-Fetal congenital abnormalities, biochemical assays of two proteins (PAPP-A, hCG [any form]), utilizing maternal serum, algorithm reported as a risk score

Fish and Shellfish Panel IgG

**Specimen Requirements:**
- Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 365 days
- Ambient 7 days
Flecainide, Serum

Specimen Requirements: Sample must be centrifuged and serum aliquoted off within 2 hours of draw. Container/Tube: Red top Specimen Volume: 3 mL

Specimen Minimum Volume: 1.1 mL

Transport Temperature:
- Serum Red Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

FLG Gene, Mutation Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle’s minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

Specimen Minimum Volume: Blood: 1 mL

Transport Temperature: Varies

FLI-1 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature: TECHONLY Ambient (preferred)
**FLNDR**

57895

**Flounder (Bothidae/Pleuronectidae Fam) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**80997**

**Flow Cytometry, Cell Surface, First (Bill Only)**

**Specimen Requirements:** Only orderable by internal pathology clients. This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:** Varies

**CPT Code Information:** 88184

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**FLT**

19739

**FLT3 Mutation Analysis, Varies**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood Container/Tube: EDTA (lavender top) or ACD (yellow top) Specimen Volume: 3 mL. Collections Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Bone marrow Container/Tube: EDTA (lavender top) or ACD (yellow top) Specimen Volume: 2 mL. Collections Instructions: 1. Invert several times to mix bone marrow. 2. Send specimens in original tube. 3. Label specimen as bone marrow. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of DNA. Specimen Stability: Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume:** Blood, Bone Marrow: 0.5 mL; Extracted DNA from blood or bone marrow

**Transport Temperature:**
- Varies
- 7 days

**CPT Code Information:** 81245-FLT3 ITD mutation detection. CPT Code Description: FLT3 (fms-related tyrosine kinase) (eg, acute myeloid leukemia), gene analysis, internal tandem duplication (ITD) variants (ie, exons 14, 15). 81246-FLT3 (fms-related tyrosine kinase 3) (eg, acute myeloid
leukemia), gene analysis; tyrosine kinase domain (TKD) variants (eg, D835, I836);

Fluconazole (Diflucan)

**Specimen Requirements:**
- Container/Tube: Agar slant or other appropriate media
- Specimen Volume: Organism in pure culture
- Complete and submit with specimen: Fungus Testing Lab request form

**Collection Instructions:**
1. Organism must be in pure culture, actively growing.
2. Place specimen in a large infectious container (T146) and label as an etiologic agent/infectious substance.

**Transport Temperature:**
- Varies

**CPT Code Information:**
- 84999 - Unlisted Chemistry Procedure
- 87188 - mould - MIC microdilution or agar dilution (if appropriate)
- 87186 - yeast - MIC microdilution or agar dilution (if appropriate)
- 87187 - mould or yeast - MLC microdilution or agar dilution (if appropriate)

Flunitrazepam Confirmation, Serum

**Specimen Requirements:**
- Submit only 1 of the following specimens:
  - Plasma: Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial.
  - Serum: Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:**
- 2 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 365 days
  - Ambient 48 hours

**CPT Code Information:**
- 80346

Fluoride, Plasma

**Specimen Requirements:**
- Collection: Container/Tube: Green top (sodium heparin)
- Submission Container/Tube: Plastic vial
- Specimen Volume: 3 mL

**Specimen Minimum Volume:**
- 1.2 mL

**Transport Temperature:**
- Plasma Heparin Refrigerated (preferred) 14 days
  - Ambient 14 days
  - Frozen 14 days

**CPT Code Information:**
- 82735

Fluoxetine, Serum

**Specimen Requirements:**
- Container/Tube: Red top
- Specimen Volume: 1 mL
Instructions: Spin down and separate serum from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
  - Frozen 14 days
  - Ambient 24 hours

**CPT Code Information:** 80299

### PROLX 80458

**Fluphenazine (Prolixin), Serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80342

### FFLUR 90091

**Flurazepam (Dalmane) and Desalkylflurazepam**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma frozen in plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum frozen in plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Frozen 180 days

**CPT Code Information:** 80346

### 17BFP 89739

**Fluticasone 17-Beta-Carboxylic Acid, Urine**

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Urine Frozen (preferred) 14 days
Refrigerated 72 hours  
Ambient 24 hours

CPT Code Information: 80299

FFVOX 57731

Fluvoxamine (Luvox)

Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a green-top sodium heparin tube(s), plasma gel tube is not acceptable. Spin down and send 3mL of plasma refrigerated in a plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
- Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 72 hours

CPT Code Information: 80332

IAPC 113345

FNA Immediate Adequacy (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
- Ambient (preferred)
- Refrigerated

CPT Code Information: 88172

IAAPC 113346

FNA Immediate Adequacy Add'l (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
- Ambient (preferred)
- Refrigerated

CPT Code Information: 88177

PGXFP 65566

Focused Pharmacogenomics Panel

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information:
Ambient (preferred)/Refrigerated Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: DNA Saliva Collection Kit (T786) Container/Tube: Saliva Swab Collection Kit (T786: fees apply) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Additional Information: Due to lower concentration of DNA yielded from saliva, testing cannot proceed to reflex testing for 2D6 sequencing and will stop after initial testing is complete. Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 1 mL Saliva: 1 swab

**Transport Temperature:**

Varies Varies

**CPT Code Information:** 0029U; ; 2D6S1-2D6S6 reflex tests; 0028U (if appropriate);

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**Folate, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Fasting (8 hours) 2. Serum gel tubes should be centrifuged within 2 hours of collection. 3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Additional Information: Do not order on patients who have recently received methotrexate or other folic acid antagonists.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 7 days

Frozen 90 days

**CPT Code Information:** 82746

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**Follicle Stimulating Hormone, Beta Subunit (Beta FSH) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred) Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Follicle-Stimulating Hormone, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair,
skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top
Specimen Volume: 0.6 mL Collection Instructions: Specimen should be centrifuged and aliquoted within
2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 180 days
Ambient 24 hours

**CPT Code Information:** 83001

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**FOOD6**

**81874**

**Food Panel**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**FDP1**

**86207**

**Food Panel #2**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**FFPG4**

**58090**

**Food Panel IgG4 (532)**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days
FFPII 57850

Food Panel II IgG
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1.5 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

CPT Code Information: 86001 x 8

FOOD2 81869

Food-Fruit Panel
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

FOOD4 81872

Food-Grain Panel
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

FOOD8 81876

Food-Nut Panel # 1
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
Food-Nut Panel # 2

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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Food-Seafood Panel

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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Food-Vegetable Panel

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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Formaldehyde, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For one allergen: 0.3 mL; For more than one allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

FFOAB
Formic Acid, Serum/Plasma

Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a red-top tube(s). Spin down and send 1 mL of serum refrigerated in plastic vial. Plasma Draw blood in a green-top (heparin) tube(s), lavender top tube (EDTA) or Pink top tube. Spin down and send 1 mL of plasma refrigerated in plastic vial.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Frozen 180 days
Ambient 48 hours

CPT Code Information: 83921

FFRM
Formic Acid, Urine

Specimen Requirements: Send 3 mL from a random urine collection is plastic preservative free container. Send specimen refrigerated.

Specimen Minimum Volume: 1.4 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 60 days
Ambient 5 days

CPT Code Information: 82570 â€“ Creatinine; other source; 83921 â€“ Formic acid; quantitative; 81002 â€“ Specific gravity; non-automated, without microscopy (if appropriate); ;

XL2
FOXL2 Mutation Analysis, Tumor

Specimen Requirements: Preferred Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable: Specimen Type: Tissue Slides: 1 stained and 10 unstained slides Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides (nonbaked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology Container/Tube: Cytology slide (direct smears or ThinPrep) Slides: 1 to 2 slides (stained and coverslipped) with a minimum of 5,000 total nucleated cells Collection Instructions: Submit 1 to 2 slides stained and coverslipped Additional Information: Cytology slides will not be returned.
Specimen Minimum Volume: See Specimen Required field.

Transport Temperature:
Varies Ambient
 (preferred)
 Frozen
 Refrigerated

CPT Code Information: 81479; 88381;

**FOXP1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
 (preferred)
 Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**FOXP3 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
 (preferred)
 Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**Foxtail Millet, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
 Frozen 90 days
**FXS**

**Fragile X Syndrome, Molecular Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Prenatal Specimens Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 0.5 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81243-FMR1 (fragile 1 mental retardation 1) (eg, fragile X mental retardation) gene analysis; evaluation to detect abnormal (eg, expanded) alleles; Fibroblast Culture for Genetic Test; 8233-Tissue culture, skin or solid tissue biopsy (if appropriate); 8240-Cryopreservation (if appropriate); Amniotic Fluid Culture/Genetic Test; 8235-Tissue culture for amniotic fluid (if appropriate); 8240-Cryopreservation (if appropriate); Maternal Cell Contamination, B; 81244-FMR1 (Fragile 1 mental retardation1) gene analysis, characterization of alleles (eg, expanded size and methylation status);

**FUFXS**

**Fragile X, Follow up Analysis**

**Specimen Requirements:** This is not an orderable test. This follow-up test is added by the laboratory dependent upon on the result of the PCR analysis (FXS / Fragile X Syndrome, Molecular Analysis).

**Transport Temperature:**

Varies

**CPT Code Information:** 81244-FMR1 (Fragile 1 mental retardation1) gene analysis, characterization of alleles (eg, expanded size and methylation status);

**FRANC**

**Francisella Tularensis Antibody**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum ambient in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL; Peds 0.075 mL
Transport Temperature:
Serum Ambient (preferred) 7 days
Frozen 30 days
Refrigerated 14 days

CPT Code Information: 86000

NEFA
Free Fatty Acids, Total, Serum
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Frozen
CPT Code Information: 82725

FRTUP
Free Thyroxine Index (FTI), Serum
Specimen Requirements: Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 30 days
Ambient 72 hours
CPT Code Information: 84479-Thyroxine binding capacity(TUP); 84436-Thyroxine total (T4S);

FLARP
Free-Living Amebae Molecular Detection, PCR, Spinal Fluid, Fresh and Paraffin Tissue
Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Cerebrospinal fluid Container/Tube: Sterile container Specimen Volume: 0.5 mL Collection Instructions: Send vial #2. Specimen Type: Tissue: Fresh Sources: Brain, skin, lung Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: Submit tissue in a sterile container with 1 mL of sterile saline or minimal essential media (MEM). Specimen Type: Tissue: Formalin-fixed paraffin-embedded (FFPE) Sources: Brain, skin, lung Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: Cut tissue into five 10-micron sections and place in a sterile container.
Specimen Minimum Volume: CSF: 0.3 mL; Tissue: 5 mm biopsy
**Transport Temperature:**
Varies Refrigerated 7 days

**CPT Code Information:** 87798 x 3

**FFRED 91819**
*Friedreich Ataxia Repeat Expansion Analysis - Unknown Mutation*

**Specimen Requirements:** Collect EDTA (lavender-top) tube. Ship ambient. Adults/Children 3 - 5 mL; Infant 3 mL Note: Completed and submit with specimen - Baylor Molecular form

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole Blood EDTA
- Ambient (preferred)
- Refrigerated

**CPT Code Information:** 81401

**FFRBS 60476**
*Friedreich Ataxia, Frataxin, Quantitative, Blood Spot*

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood spot collection card (T493) Acceptable: Ahlstrom 226 Filter Paper and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is fingerstick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**
Whole blood EDTA
- Ambient (preferred) 30 days
- Frozen 30 days
- Refrigerated 30 days

**CPT Code Information:** 83520

**FFRWB 60477**
*Friedreich Ataxia, Frataxin, Quantitative, Whole Blood*

**Specimen Requirements:** Collection Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Green top (sodium or lithium heparin) Submission Container/Tube: Plastic vial Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1.25 mL

**Transport Temperature:**
Whole blood  Frozen (preferred)  70 days
        Ambient  70 days
        Refrigerated  70 days

CPT Code Information: 83520

**PCIFS**

**113333**

**Frozen section, 1st block (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

Ambient  (preferred)

Refrigerated

CPT Code Information: 88331

**PCAFS**

**113334**

**Frozen section, addl blocks (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

Ambient  (preferred)

Refrigerated

CPT Code Information: 88332

**FRUCT**

**81610**

**Fructosamine, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL. Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

Serum Refrigerated (preferred)  7 days

Frozen  7 days

Ambient  72 hours

CPT Code Information: 82985

**FROS2**

**92187**

**Fructose, Qualitative, Semen**

**Specimen Requirements:** Patient Preparation: Patient should have 2 to 7 days of sexual abstinence at the time of semen collection. Submit only 1 of the following specimens: Semen Collection Container/Tube: Sterile container Submission Container/Tube: Plastic container Specimen Volume:
Total ejaculate Collection Instructions: Do not dilute specimen. Freeze specimen at -20°C. Seminal Plasma Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. After semen collection, wait 30 to 40 minutes until the semen is liquefied, then centrifuge the semen for 10 minutes at maximum centrifuge speed. 2. Remove top 3/4 of specimen with a pipet and place in a plastic vial. 3. Discard remainder of centrifuged specimen.

**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Semen Frozen

**CPT Code Information:** 82757

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**FFPG**

**57932**

**Fruit Panel IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1.5 mL  
**Transport Temperature:**  
Semen Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 7 days

**CPT Code Information:** 86001 x16

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**GFDZ**

**35440**

**FTCD Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube:Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:**  
Blood: 1 mL  
Blood Spots: 5 punches-3 mm diameter
Transport Temperature:
Varies

CPT Code Information: 81479-Unlisted molecular pathology procedure; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

FBL 50022

Fungal Culture, Blood

Specimen Requirements: Container/Tube: Green top (heparin) Specimen Volume: 10-30 mL
Collection Instructions: Send specimen in original tube.

Specimen Minimum Volume: 5 mL/Pediatric: 1.5 mL

Transport Temperature:
Whole blood  Ambient (preferred)  7 days
Refrigerated  7 days

CPT Code Information: 87015-Concentration (any type) for infectious agents; 87103-Blood; 87106-Id MALDI-TOF Mass Spec Yeast (if appropriate); 87107-Id MALDI-TOF Mass Spec Fungi (if appropriate); 87106-Yeast identification panel D (if appropriate) 87107-Fungal identification panel A (if appropriate) 87107-Fungal identification panel B (if appropriate) 87150-Identification rapid PCR coccidioides (if appropriate); 87150 x 2- Identification Histoplasma/Blastomyces, PCR (if appropriate); 87153- D2 fungal sequencing identification (if appropriate);

FDERM 87283

Fungal Culture, Dermal

Specimen Requirements: Specimen Type: Hair Container/Tube: Sterile container Specimen Volume: 10-12 Collection Instructions: Using forceps collect affected hairs with shaft intact. Specimen Type: Nails Container/Tube: Sterile container Specimen Volume: Entire collection Collection Instructions: 1. Wipe the nail with 70% alcohol using gauze (not cotton). 2. Clip away a generous portion of the affected area. 3. Collect material or debris from under the nail. Specimen Type: Skin Container/Tube: Sterile container Specimen Volume: Entire specimen Collection Instructions: 1. Cleanse the affected area with 70% alcohol. 2. Gently scrape the surface of the skin at the active margin of the lesion, being careful to not draw blood.

Transport Temperature:
Varies Ambient 7 days

CPT Code Information: 87101-Fungal culture, dermal; 87106-Yeast identification panel D (if appropriate); 87106-Id MALDI-TOF Mass Spec Yeast (if appropriate); 87107-Id MALDI-TOF Mass Spec Fungi (if appropriate) 87107-Fungal identification panel A (if appropriate) 87107-Fungal identification panel B (if appropriate) 87150-Identification rapid PCR coccidioides (if appropriate); 87150 x 2-Identification Histoplasma/Blastomyces, PCR (if appropriate); 87153-D2 fungal sequencing identification (if appropriate);

FGEN 84389

Fungal Culture, Routine

Specimen Requirements: Specimen Type: Body fluid Container/Tube: Sterile container Specimen Volume: Entire collection Specimen Type: Bone marrow Container/Tube: Sterile container Specimen Volume: Entire collection Specimen Type: Fresh tissue or stool Supplies: Stool Collection
Kit, Random (T635) Container/Tube: Sterile container Specimen Volume: Pea sized Collection Instructions: Tissue should be placed in small amount of sterile saline or sterile water. Specimen Type: Respiratory specimen Container/Tube: Sterile container Specimen Volume: Entire collection Specimen Type: Swab Fresh tissue or body fluid is the preferred specimen type instead of a swab specimen. Sources: Dermal, ear, mouth, ocular, throat, or wound Container/Tube: Culture transport swab (noncharcoal) Culturette Specimen Volume: Swab Collection Instructions: 1. Before collecting specimen, wipe away any excessive amount of secretion and discharge, if appropriate. 2. Obtain secretions or fluid from source with sterile swab. 3. If smear and culture are requested or both a bacterial culture and fungal culture are requested, collect a second swab to maximize test sensitivity. Specimen Type: Urine Container/Tube: Sterile container Specimen Volume: 2 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** Bone Marrow or Body Fluid: 1 mL; Respiratory Specimen: 1.5 mL; Tissue: pea-sized piece

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Ambient 7 days

**CPT Code Information:**
- 87102-Fungal culture, routine
- 87106-Yeast identification panel D (if appropriate)
- 87106-Id MALDI-TOF Mass Spec Yeast (if appropriate)
- 87107-Id MALDI-TOF Mass Spec Fungi (if appropriate)
- 87107-Fungal identification panel A (if appropriate)
- 87107-Fungal identification panel B (if appropriate)
- 87107-Yeast identification panel A (if appropriate)
- 87107-Yeast identification panel B (if appropriate)
- 87150 x 2-Identification Histoplasma/Blastomyces, PCR (if appropriate)
- 87153-D2 fungal sequencing identification (if appropriate)
- 87176-Tissue processing (if appropriate)

**FVAG 5184**

**Fungal Culture, Vaginal**

**Specimen Requirements:** Specimen Type: Swab Source: Vaginal secretions Container/Tube: Culture transport swab (noncharcoal) Collection Instructions: 1. Before collecting specimen, wipe away any excessive amount of secretion and discharge. 2. Obtain secretions from the mucosal membrane of the vaginal vault with a sterile swab. 3. If smear and culture are requested or both a bacterial culture and fungal culture are requested, collect a second swab to maximize test sensitivity.

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Ambient 7 days

**CPT Code Information:**
- 87102-Fungal culture, vaginal
- 87106-Id MALDI-TOF Mass Spec Yeast (if appropriate)
- 87107-Id MALDI-TOF Mass Spec Fungi (if appropriate)
- 87107-Fungal identification panel A (if appropriate)
- 87107-Fungal identification panel B (if appropriate)
- 87150-Identification rapid PCR Coccidioides (if appropriate)
- 87150 x 2-Identification Histoplasma/Blastomyces, PCR (if appropriate)
- 87153-D2 fungal sequencing identification (if appropriate)

**FUNA 45196**

**Fungal Ident Panel A (Bill Only)**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
- Varies

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CPT Code Information: 87107

**Fungal Ident Panel B (Bill Only)**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
Varies

CPT Code Information: 87107

**Fungal Sequencing Identification**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
Varies

CPT Code Information: 87153

**Fungal Smear**

**Specimen Requirements:**
- Specimen Type: Body fluid Container/Tube: Sterile container
- Specimen Volume: Entire collection
- Specimen Type: Bone marrow Container/Tube: Sterile container
- Specimen Volume: Entire collection
- Specimen Type: Fresh tissue or stool Supplies: Stool Collection Kit, Random (T655) Container/Tube: Sterile container
- Specimen Volume: Pea sized Collection
- Instructions: Tissue should be placed in small amount of sterile saline or sterile water.
- Specimen Type: Respiratory specimen Container/Tube: Sterile container
- Specimen Volume: Entire collection
- Specimen Type: Urine Container/Tube: Sterile container
- Specimen Volume: 2 mL Collection
- Instructions: Collect a random urine specimen.
- Specimen Type: Fresh tissue or body fluid is the preferred specimen type instead of a swab specimen.
- Specimen Type: Swab Sources: Dermal, ear, mouth, ocular, throat, or wound Container/Tube: Culture transport swab (noncharcoal) Culturette
- Specimen Volume: Swab Collection
- Instructions: 1. Before collecting specimen, wipe away any excessive amount of secretion and discharge, if appropriate. 2. Obtain secretions or fluid from source with sterile swab. 3. If smear and culture are requested or both a bacterial culture and fungal culture are requested, collect a second swab to maximize test sensitivity.

**Specimen Minimum Volume:**
- Bone Marrow or Body Fluid: 1 mL
- Respiratory Specimen: 1.5 mL
- Tissue: pea-sized piece

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days

Ambient 7 days

CPT Code Information: 87206; 87176-Tissue processing (if appropriate);

**Fungitell, BAL**

**Specimen Requirements:**
- Specimen Type: BAL Sources: Bronchoalveolar lavage Container/Tube: Sterile container
- Specimen Volume: 1 – 3 mL
- Note: Ship frozen
**Fungitell, bronch wash**

**Specimen Requirements:** Collect 1-3 mL Bronchial Wash in a sterile container, ship frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Bronchial Washing: Frozen (preferred)
- Refrigerated: 7 days
- Ambient: 4 days

**CPT Code Information:** 87449

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**Fungitell, CSF**

**Specimen Requirements:** Specimen Type: Spinal Fluid Sources: CSF Container/Tube: Sterile container

**Specimen Volume:** 2 mL

**Collection Instructions:** Collect 2 mL of spinal fluid (CSF) in a sterile container. Ship frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- CSF: Frozen (preferred)
- Refrigerated: 7 days
- Ambient: 4 days

**CPT Code Information:** 87449

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**Fungitell, Serum**

**Specimen Requirements:** Collect 3-5 mL blood in a serum separator gel tube (SST). Centrifuge specimen within 2 hours. Ship serum gel tube frozen. NOTE: Do not aliquot specimen.

**Specimen Minimum Volume:** 0.5 mL Adults; 0.2 Infants

**Transport Temperature:**
- Serum SST: Frozen (preferred)
- Refrigerated: 5 days

**CPT Code Information:** 87449
**Furosemide (Lasix)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80375; G0480 (if appropriate);

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**FUS Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:** TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Fusarium moniliforme, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**Fusarium oxysporum/vasinfectum IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

GABA

Gabapentin, Serum

Specimen Requirements:
Container/Tube: Red top
Specimen Volume: 1 mL
Collection Instructions: 1. Draw specimen immediately before next scheduled dose. 2. Spin down within 2 hours of draw.

Specimen Minimum Volume: 0.2 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 80171

FGABA

Gabapentin, Urine

Specimen Requirements: Collect 10 mL random urine without preservatives. Ship refrigerated in a plastic container.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Urine Refrigerated (preferred) 7 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80307

GDU

Gadolinium, 24 Hour, Urine

Specimen Requirements:
Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068)
Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert
Specimen Volume: 10 mL
Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.
**GDT 89302**

**Gadolium, Dermal, Tissue**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free Specimen Vial (T173) Container/Tube: Preferred: Mayo metal-free specimen vial (blue label) (T173) Acceptable: Paraffin block is also acceptable if not more than 1 or 2 cuts have been made to it for slides. Specimen Volume: 2 mg Collection Instructions: 1. 2 mg of tissue from a skin-punch biopsy is required, at least 2 mm in diameter and 2 mm in depth. 2. Any specimen vial other than a Mayo metal-free vial used should be plastic, leached with 10% nitric acid for 2 days, rinsed with redistilled water, and dried in clean air. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: Paraffin blocks will be returned 3 days after analysis.

**Specimen Minimum Volume:** 0.5 cm (14-gauge needle) 1 cm (18-gauge needle) 2 mm x 2 mm (punch) 0.3 mg by dry weight

**Transport Temperature:**

Dermal Tissue Refrigerated (preferred) 14 days

Ambient 14 days

Frozen 14 days

**CPT Code Information:** 83018

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**GDS 89299**

**Gadolium, Serum**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1.6 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipette into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

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**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**

Urine Refrigerated (preferred) 28 days

Ambient 28 days

Frozen 28 days

**CPT Code Information:** 83018
Ambient  14 days
Frozen  14 days

**CPT Code Information:** 83018

**GDCRU 60428**  
**Gadolinium/Creatinine Ratio, Random, Urine**  
**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.  
**Specimen Minimum Volume:** 0.7 mL  
**Transport Temperature:**  
Urine Refrigerated (preferred)  28 days  
Ambient  28 days  
Frozen  28 days  

**CPT Code Information:** 83018-Gadolinium Concentration; 82570-Creatinine Concentration;

**GATOL 62440**  
**Galactitol, Quantitative, Urine**  
**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 2 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.  
**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Urine Refrigerated (preferred)  28 days  
Frozen  28 days  

**CPT Code Information:** 82542

**CBGC 8816**  
**Galactocerebrosidase, Leukocytes**  
**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.  
**Specimen Minimum Volume:** 5 mL  
**Transport Temperature:**  
Whole Blood ACD Refrigerated (preferred)  72 hours  
Ambient  72 hours
**Galactokinase, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Green top (sodium heparin), green top (lithium heparin), or yellow top (ACD) Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 10 days
- Ambient 72 hours

**Galactose, Quantitative, Plasma**

**Specimen Requirements:** Collection Container/Tube: Green top (sodium heparin) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Plasma Na Heparin Frozen (preferred) 365 days
- Ambient 20 days
- Refrigerated 20 days

**Galactose, Quantitative, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 1 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Frozen (preferred) 365 days
- Ambient 20 days
- Refrigerated 20 days

**Galactose-1-Phosphate (Gal-1-P), Erythrocytes**

**Specimen Requirements:** Collection Container/Tube: Green top (heparin) Submission Container/Tube: Plastic vial Specimen Volume: Washed, packed cells (red cell pellet from step f in Collection Instructions) Collection Instructions: 1. Collect and process a minimum of 2 mL of whole blood as follows: a. Immediately centrifuge for 10 minutes at 650 x G. For conversion to RPMs, see
Additional Information. b. Discard the plasma and buffy coat layers. c. Add a cold 0.9% saline solution to the erythrocytes (about 2 times the volume of erythrocytes). d. Mix gently by inversion and centrifuge again for 10 minutes at 650 x G. e. Remove and discard the saline. f. Repeat the wash steps (steps c-e) 2 more times. 2. After the final centrifugation, remove and discard the saline and a thin layer of the top cells. Additional Information: 1. For infants, collect specimen immediately prior to feeding to avoid postprandial elevations. 2. The relative centrifugal force (G-force) can be estimated by applying the following formula: \( g = 11.18 \times r \times \left( \frac{n}{1000} \right)^2 \). Where: \( r = \) radius in centimeters and \( n = \) speed in RPM. The radius from the center of the rotation axis to the bottom or outermost portion of the test tube should be used. RCF is expressed relative to the force of the earth's gravity.

**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:**  
Washed RBC  Frozen 29 days

**CPT Code Information:** 84378

**GALT**  
**Galactose-1-Phosphate Uridyltransferase (GALT), Blood**  
**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Green top (sodium heparin) or yellow top (ACD) Specimen Volume: 5 mL  
**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:**  
Whole Blood EDTA Refrigerated (preferred)  28 days  
Ambient  14 days

**CPT Code Information:** 82775

**GALTP**  
**Galactose-1-Phosphate Uridyltransferase Biochemical Phenotyping, Erythrocytes**  
**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL  
**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:**  
Whole Blood EDTA Refrigerated (preferred)  28 days  
Ambient  14 days

**CPT Code Information:** 82664; 82775;

**FGA13**  
**Galactose-alpha-1,3-galactose (Alpha-Gal) IgE**  
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.  
**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred)  28 days
Galactosemia Gene Analysis (14-Mutation Panel)

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Frozen/Refrigerated Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: Blood: 1 mL Blood Spots: 3

Transport Temperature:
Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: 81401-GALT (galactose-1-phosphate uridylyltransferase) (eg, galactosemia), full gene sequence

Galactosemia Reflex, Blood

Specimen Requirements: Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 5 mL Additional Information: Patient's age is required.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred) 28 days
Ambient 14 days

Galectin-3 (GAL3) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Galectin-3, Serum

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Red Frozen (preferred) 365 days
Refrigerated 24 hours

**CPT Code Information:** 82777-Galectin-3

GALT Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches-3 mm diameter

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen

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Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
WGSEQ
62982
Gamma Globin Full Gene Sequencing, Varies
Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Peripheral blood Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in the original tube. Specimen Stability: Refrigerate Specimen Type: Extracted DNA from whole blood Container/Tube: 1.5-2mL tube with indication of volume and concentration of DNA Specimen Volume: Entire specimen Collection Instructions: 1. Label specimen as extracted DNA from blood. 2. Write the DNA concentration on the specimen tube. Specimen Stability: Frozen (preferred)/Refrigerate/Ambient
Specimen Minimum Volume: Blood: 1 mL; Extracted DNA: 50 mcL at 50 ng/mcL concentration
Transport Temperature: Varies Varies 30 days
CPT Code Information: 81479-Unlisted molecular

WGSQR
47960
Gamma-Globin Full Gene Sequencing, Varies
Specimen Requirements: Only orderable as a reflex. For more information see: -HAEVP / Hemolytic Anemia Evaluation -HBELC / Hemoglobin Electrophoresis Cascade, Blood -MEVP / Methemoglobinemia Evaluation -REVE / Erythrocytosis Evaluation THEVP / Thalassemia and Hemoglobinopathy Evaluation
Specimen Minimum Volume: 1 mL
Transport Temperature: Varies Varies 30 days
CPT Code Information: 81479- Unlisted molecular

GGT
8677
Gamma-Glutamyltransferase (GGT), Serum
Specimen Requirements: Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Aliquot tube Specimen Volume: 0.5 mL Collection Instructions: Centrifuge and aliquot within 2 hours of collection.
Specimen Minimum Volume: 0.25 mL
Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 365 days
Ambient 7 days
CPT Code Information: 82977

CPT Code Information: 81406-GALT (galactose-I-phosphate uridylyltransferase) (eg, galactosemia), full gene sequence
Gamma-Hydroxybutyric Acid (GHB), Serum/Plasma

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial. Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL of sodium heparin plasma refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Varies
- Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80307

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Gamma-Hydroxybutyric Acid (GHB), Urine

**Specimen Requirements:** Collect 10 mL random urine without preservatives. Ship refrigerated in a plastic container.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80307

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Ganciclovir, Serum

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Serum for a peak level should be drawn 30 to 60 minutes after dosing. Serum for a trough level should be drawn no more than 30 minutes before the next dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Red Frozen (preferred) 28 days
- Refrigerated 14 days
- Ambient 7 days

**CPT Code Information:** 80299

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Ganglioside (Asialo-GM1, GM1, GM2, GD1a, GD1b, and GQ1b)
Antibodies

**Specimen Requirements:** Draw blood in a serum gel tube(s). Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum SST: Refrigerated (preferred) 14 days
- Frozen: 365 days

**CPT Code Information:** 83516 x 6

**GM1B 83189**

**Ganglioside Antibody Panel, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 14 days
- Refrigerated: 14 days

**CPT Code Information:** 83516 x 6

**FGQ1B 57248**

**Ganglioside GQ1b Antibody (IgG), EIA**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial. Note: Overnight fasting is preferred.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen: 21 days
- Ambient: 7 days

**CPT Code Information:** 83520

**FGARG 57634**

**Garlic IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen: 365 days
- Ambient: 7 days
Garlic, IgE

**Specimen Requirements:**
- Container/Tube: Preferred: Red top
- Acceptable: Serum gel

Specimen Volume: 0.5 mL for each 5 allergens requested

Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:**
- For 1 allergen: 0.3 mL
- For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

Gastrin Immunostain, Technical Component Only

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693)
- Specimen Type: Tissue

**Container/Tube:**
- Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick
- Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

Gastrin, Serum

**Specimen Requirements:**
- Patient Preparation: 1. Fasting (8 hours) required
- 2. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

**Collection Container/Tube:**
- Plastic vial

**Specimen Volume:**
- 1 mL

**Collection Instructions:**
- 1. If multiple specimens are drawn, submit each vial under a separate order.
- 2. Label specimens with corresponding draw time.

**Specimen Minimum Volume:**
- 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 24 hours
Gastrointestinal Pathogen Panel, PCR, Feces

**Specimen Requirements:** Supplies: C and S Vial (T058) Specimen Type: Preserved Stool Container/Tube: Cary-Blair transport system is required. Specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S [T058]). Submit sample in original Cary Blair medium container (not an aliquot). Specimen Volume: 1 gram or 5 mL Collection Instructions: 1. Collect fresh stool and place in preservative within 2 hours of collection. 2. Submit a representative portion of stool in container with transport medium.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Fecal Ambient (preferred) 4 days
Refrigerated 4 days

**CPT Code Information:** 87507

GATA3

**GATA Binding Protein 3 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

GATA2

**GATA-Binding Protein 2 (GATA2) Comprehensive Gene Sequencing**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100
mcL at a concentration of 250 ng/mcL. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Whole blood: 1 mL

**Transport Temperature:**
Varies

**CPT Code Information:** 81479

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**GATA-Binding Protein 3 Immunostain, Bone Marrow, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick; B5 fixed, decalcified, paraffin-embedded bone marrow tissue. Acceptable: B5 fixed, decalcified, paraffin-embedded bone marrow tissue block.

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Gaucher Disease, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient over 1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches, 3-mm diameter
Transport Temperature:
Varies

CPT Code Information: 81479; Fibroblast Culture for Genetic Test; 88233-if appropriate; 88240-if appropriate;

Gaucher Disease, Mutation Analysis, GBA

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2.6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Prenatal Specimen Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Minimum Volume: Blood: 0.5 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

Transport Temperature:
Varies

CPT Code Information: 81251-GBA (glucosidase, beta, acid) (eg, Gaucher disease) gene analysis, common variants (eg, N370S, 84GG, L444P, IVS2+IG>A); Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

GCFP-15 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
**Gelatin Porcine IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 28 days

**CPT Code Information:** 86003

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**Gelatin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**Gelsolin (GSN) Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Varies Ambient (preferred)
  - Frozen
  - Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

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**Gentamicin in Cerebrospinal Fluid (CSF)**

**Specimen Requirements:** Submit 1 mL of spinal fluid (CSF). Send refrigerate in a plastic vial.
Specimen Minimum Volume: 0.25 mL
Transport Temperature:
CSF Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 72 hours

CPT Code Information: 80170

**GENPA**

**Gentamicin, Peak, Serum**

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

CPT Code Information: 80170

**GENRA**

**Gentamicin, Random, Serum**

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

CPT Code Information: 80170

**GENTA**

**Gentamicin, Trough, Serum**

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.25 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
**CPT Code Information:** 80170

**GERB 82545**

**Gerbil Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**GCTF 35270**

**Germ Cell Tumor (GCT), Isochromosome 12p, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88271x2 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**GCET 70442**

**Germinal Center B-cell Expressed Transcript 1 (GCET1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable:
Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
  Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**FGHTL 57902 Ghrelin Total, Plasma**

**Specimen Requirements:** Collect 10 mL of blood in special tube containing G.I. Preservative (MML supply number T125). Specimen should be separated in refrigerated centrifuge as soon as possible and send 3 - 5 mL plasma frozen. Ship frozen. Patient preparation: 1. Patient should be fasting 10 - 12 hours prior to collection. 2. Patient should not be on any medications or supplements that may influence: Cholecystokinin (CCK), Glucose, Growth Hormone, Insulin and/or Somatostatin levels, if possible for at least 48 hours prior to specimen collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
GI Plasma Frozen (preferred) 180 days
  Refrigerated 24 hours

**CPT Code Information:** 83519

**GRW 82685 Giant Ragweed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
  Frozen 90 days

**CPT Code Information:** 86003

**GIAR 80231 Giardia Antigen, Feces**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Preserved stool Supplies: Formalin - Meridian 10% Buffered Neutral (T466); Stool Collection Kit, Random (T635) Container/Tube: Preferred: Stool container with 10% buffered formalin preservative (T466) Acceptable: SAF (sodium acetate formalin) Specimen Volume: 5 g Specimen Stability Information: Ambient (preferred) 60 days Acceptable: Specimen Type: Unpreserved stool Supplies: Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635) Container/Tube: Stool container (T288) Specimen Volume: 5 g Specimen Stability Information: Frozen 60 days

**Specimen Minimum Volume:** 2 g
Transport Temperature:
Fecal Variates

CPT Code Information: 87329

GING
82488

Ginger, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

GISTP
35342

GIST-Targeted Gene Panel by Next-Generation Sequencing, Tumor

Specimen Requirements: Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Container/Tube: Slides Specimen Volume: 1 stained and 10 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained, non-baked slides with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology Container/Tube: Cytology slide (Direct smears or ThinPrep) Specimen Volume: 1 to 2 slides (stained and coverslipped) with a minimum of 5000 total nucleated cells Collection Instructions: Submit 1 to 2 slides stained and coverslipped Additional Information: Cytology slides will not be returned.

Specimen Minimum Volume: Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 8 unstained, non-baked slides with 5-microns thick sections of the tumor tissue with at least 6 mm(2) area of tissue (can be over multiple slides) and 20% tumor nuclei, 1 stained and coverslipped cytology slide with at least 5,000 total nucleated cells and at least 20% tumor cells

Transport Temperature:
Varies Ambient (preferred)
Frozen Refrigerated

CPT Code Information: 81272-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, gastrointestinal stromal tumor [GIST], acute myeloid leukemia, melanoma), gene analysis, targeted sequence analysis (eg, exons 8, 11, 13, 17, 18); 81314-PDGFRA (platelet-derived growth factor receptor alpha polypeptide) (eg, gastrointestinal stromal tumor [GIST]), gene analysis, targeted sequence analysis (eg, exons 12, 18); 88381-Microdissection, manual;
**Gliadin (Deamidated) Antibodies Evaluation, IgG and IgA, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 83516 x 2

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**Gliadin (Deamidated) Antibody, IgA, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 83516

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**Gliadin (Deamidated) Antibody, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 83516

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**Glial Fibrillary Acidic Protein (GFAP) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 70756

**FGLIP**

Glipizide (Glucotrol)

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

CPT Code Information: 80375; G0480 (if appropriate);

**LGB3S**

Globotriaosylsphingosine, Serum

**Specimen Requirements:** Patient Preparation: Fasting 12 hours Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 90 days
- Refrigerated 24 hours

CPT Code Information: 82542

**GBM**

Glomerular Basement Membrane Antibodies, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 83516

**GLUCG**

Glucagon (GLUC) Immunostain, Technical Component Only

Current as of October 16, 2018 7:53 pm CDT
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25-x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Glucagon, Plasma

Specimen Requirements: Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Fasting 2. Pre-chill tube at 4°C before drawing the specimen. 3. Draw into the pre-chilled tube, and process as follows: a. After drawing specimen, chill tube in wet ice for 10 minutes. b. Centrifuge in a refrigerated centrifuge or in chilled centrifuge cup. c. Immediately after centrifugation, remove plasma, place in a plastic transport vial (T465), and freeze.

Specimen Minimum Volume: 0.45 mL

Transport Temperature:
Plasma EDTA Frozen 90 days

CPT Code Information: 82943

Glucopsychosine, Blood Spot

Specimen Requirements: Supplies: Card-Blood Spot Collection (Filter Paper) (T493) or Card-Postmortem Screening (Filter Paper) (T525) Collection Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) Acceptable: Whatman Protein Saver 903 filter paper, Ahlstrom 226 filter paper, Munktell filter paper, Card-Postmortem Screening (Filter Paper) (T525), or blood collected in tubes containing heparin or EDTA and dried on filter paper Specimen Volume: 2 blood spots Collection Instructions: 1. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle) 2. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: 1 blood spot

Transport Temperature:
Whole blood Ambient (preferred) 96 days
Frozen 96 days
Refrigerated 96 days

CPT Code Information: 82542
**GPI 9158**

**Glucose Phosphate Isomerase, Erythrocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: EDTA Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood ACD-B Refrigerated 20 days

**CPT Code Information:** 84087

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**GLUR 8412**

**Glucose, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Add 10 g of boric acid as preservative at start of collection. 2. Collect urine for 24 hours. 3. Mix well before taking 4-mL aliquot. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 7 days
Frozen 7 days

**CPT Code Information:** 82945

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**GLBF 8343**

**Glucose, Body Fluid**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material. Additional Information: Indicate specimen source.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Body Fluid Refrigerated 7 days

**CPT Code Information:** 82945

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**GLURA 89115**

**Glucose, Random, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 30 days
CPT Code Information: 82947

**RGLUR 89847**

**Glucose, Random, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 82945

**GLSF 152**

**Glucose, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- CSF Frozen (preferred) 30 days
- Refrigerated 7 days

CPT Code Information: 82945

**G6PD 8368**

**Glucose-6-Phosphate Dehydrogenase (G-6-PD), Quantitative, Erythrocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: EDTA Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** Whole Blood ACD-B Refrigerated 20 days

CPT Code Information: 82955

**G6PDB 64567**

**Glucose-6-Phosphate Dehydrogenase (G6PD) Full Gene Sequencing**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Saliva Supplies: DNA Saliva Collection Kit (T651) Container/Tube: Oragene DNA Self-Collection Kit (T651: fees apply) Specimen Volume: Full tube Collection Instructions: 1. Fill tube to line. 2. Send specimen in
original container per kit instructions. Specimen Stability Information: Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.45 mL Saliva: Full tube of saliva

**Transport Temperature:**

Variates

**CPT Code Information:** 81249

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**HEX4**

**Glucotetrasaccharides, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL urine tube (T465) Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Urine Frozen (preferred) 87 days
- Refrigerated 28 days
- Ambient 14 days

**CPT Code Information:** 82542; 82570;

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**GLUT**

**GLUT-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** N/A

**Transport Temperature:**

TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**GD65S**

**Glutamic Acid Decarboxylase (GAD65) Antibody Assay, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days
**Glutamic Acid Decarboxylase (GAD65) Antibody Assay, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial  
Specimen Volume: 1.5 mL  

**Specimen Minimum Volume:** 1 mL  

**Transport Temperature:**  
CSF Refrigerated (preferred) 28 days  
Frozen 28 days  
Ambient 72 hours

**CPT Code Information:** 86341

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**Glutamine Synthetase (GS) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)  
Specimen Type: Tissue  
Container/Tube: Immunostain Technical Only Envelope (T693)  
Preferred: 2 Unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick  
Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** N/A

**Transport Temperature:**  
TECHONLY Ambient (preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Gluten IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 7 days

**CPT Code Information:** 86001

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Frozen 28 days  
Ambient 72 hours

**CPT Code Information:** 86341
## Gluten, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL}\) dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

## Glycerol-Corrected Triglycerides, Serum

**Specimen Requirements:** Patient Preparation: 1. Fasting-overnight (12-14 hours) 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 60 days
- Ambient 24 hours

**CPT Code Information:** 84478

## Glycogen Storage Disease Panel by Next-Generation Sequencing

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Prenatal Specimens Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with...
any standard cell culture media (e.g., minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request; Eagle's minimum essential medium with 1% penicillin and streptomycin (T115). Specimen Volume: 4-mm punch
Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Card-Blood Spot Collection (Filter Paper) (T493) Specimen Volume: 3 to 5 Blood Spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:**
- Blood: 1 mL
- Blood Spots: 3, 3-mm diameter
- Amniotic Fluid: 10 mL
- Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:**
- 81250-G6PC; 81403-NHLRC1; 81404-EPM2A; 81405-LAMP2; 81406 x 4-GAA, PRKAG2, SLC37A4, PYGM; 81479; 81407-AGL; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ; Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); ; Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (e.g., pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [e.g., buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

**FLGMA**

**GlycoMark**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 1 mL of serum ambient in a plastic vial. Plasma Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 1 mL of EDTA plasma ambient in a plastic vial.

**Specimen Minimum Volume:**
- 0.75 mL Note: This volume does not allow for repeat testing.

**Transport Temperature:**
- Varies Ambient (preferred) 7 days
- Refrigerated 7 days
- Frozen

**CPT Code Information:**
- 84378

**GLYCF**

**Glycophorin A (CD235a) Immunostain, Technical Component Only**
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4 microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Specimen Minimum Volume: N/A

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

GDOM
Glycyphagus domesticus, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

GLYP3
Glypican-3 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-micron thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Specimen Minimum Volume: N/A

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

GNPTZ
GNPTAB Gene, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen preferred to arrive within 96 hours of collection. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.
Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts
Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen
Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy
Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media,
RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be
supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]).
Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

Transport Temperature:
Varies Varies

CPT Code Information: 81479-Unlisted molecular pathology procedure code; ; Fibroblast Culture
for Genetic Test; ; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); ;
88240-Cryopreservation (if appropriate);

GOAT
82783

Goat Epithelium, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x
number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

GMILK
82550

Goat's Milk, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x
number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

GLDR
82717

Goldenrod, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**FGNRH**

**Gonadotropin Releasing Hormone (Gn-RH)**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top or serum-gel tube(s). Separate immediately and send 3 mL of serum frozen in a plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Plasma Draw blood in a lavender-top (EDTA) tube(s). Separate immediately and send 3 mL of EDTA plasma frozen in a plastic vial. Note: 1. Indicate plasma on request form. 2. Label specimen appropriately (plasma). Patient preparation: Patient should not be on any Steroid, ACTH, Gonadotropin, or Estrogen medications, if possible, for at least 48 hours prior to collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Frozen (preferred) 180 days
Refrigerated 7 days

**CPT Code Information:** 83727

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**GOOS**

**Goose Feathers, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**GRAM**

**Gram Stain**

**Specimen Requirements:** Specimen sources: Closed/open abscess, lower respiratory, fluid, tissue, or swab Supplies: Culturette (BBL Culture Swab) (T092) Container/Tube: Sterile container or culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Specimen Volume: Entire collection Acceptable: Slides: Prepared microscope slide Collection Container/Tube: Sterile container or culture transport swab Submission Container/Tube: Slide container Collection Instructions: Apply original sample to surface of standard microscope slide using appropriate application method (determined by consistency of specimen type) to assure adequate transfer
of specimen onto slide. Allow specimen to dry and then heat-fix the slide. Place in slide container for transport.

**Transport Temperature:**
- Varies
- Refrigerated (preferred) 24 hours
- Ambient 24 hours

**CPT Code Information:** 87205

### GSBV

**61565**

**Gram Stain for Bacterial Vaginosis**

**Specimen Requirements:**
- Preferred: Specimen Type: Vaginal swab
- Collection Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium: T092) or ESwab
- Specimen Volume: Entire collection
- Specimen Stability Information: ESwab: Refrigerated (preferred) 7 days/Ambient 7 days
- Culture Transport Swab: Ambient (preferred) 24 hours/Refrigerated 24 hours
- Acceptable: Specimen Type: Prepared microscope slide
- Source: Vaginal swab
- Collection Container/Tube: Culturette swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium: T092) or ESwab
- Submission Container/Tube: Slide container
- Specimen Volume: Slide

**Collection Instructions:**
- Apply original sample to surface of standard microscope slide using appropriate application method (determined by consistency of specimen type) to assure adequate transfer of specimen onto slide. Allow specimen to dry and then heat-fix the slide. Place in slide container for transport.

**Transport Temperature:**
- Varies

**CPT Code Information:** 87205

### GNRG

**64721**

**Gram-Negative Bacillus Antimicrobial Resistance Genes, PCR Panel**

**Specimen Requirements:**
- Supplies: Infectious Container, Large (T146) Collection Container/Tube: Slant
- Specimen Volume: Isolate

**Collection Instructions:**
1. Isolate infecting bacteria.
2. Organism must be in pure culture, actively growing. Do not submit mixed cultures.
3. Place specimen in a large infectious container (T146) and label as an etiologic agent/infectious substance.

**Additional Information:**
- Relevant susceptibility results may be provided (eg, meropenem resistant, cefepime resistant).

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Refrigerated

**CPT Code Information:** 87150

### LAGGT

**8976**

**Granulocyte Antibodies, Serum**

**Specimen Requirements:**
- Container/Tube: Red top
- Specimen Volume: 1.5 mL

**Additional Information:**
- Only pretransfusion reaction specimen is acceptable.

**Specimen Minimum Volume:** 0.3 mL
**CPT Code Information:** 86021

**GRANB 70449**

**Granzyme B (GRAN B) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** N/A

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**FGRPG 57653**

**Grape IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

**CPT Code Information:** 86001

**GRAP 82800**

**Grape, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days
Grapefruit, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

Grass Panel # 1

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

Grass Panel # 2

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

Grass Panel # 3

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
**CPT Code Information:** 86003

**GAB1 70437**

**GRB2-Associated Binding Protein 1 (GAB1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**GRFE 82365**

**Greek Fennel, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Refrigerated

Frozen 90 days

**CPT Code Information:** 86003

**GCBN 82769**

**Green Coffee Bean, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Refrigerated

Frozen 90 days

**CPT Code Information:** 86003
**Green Pea, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Green Pepper, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Green String Bean, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Grey Alder, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

GRHPZ
35444

GRHPR Gene, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL

Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
- Varies Ambient (preferred)
- Frozen
- Refrigerated

CPT Code Information: 81479-Unlisted molecular pathology procedure

CGAS
62989

Group A Streptococcus (Streptococcus pyogenes) Culture

Specimen Requirements: Submit only 1 of the following specimens: Preferred: Specimen Type: Rectal, perirectal, perianal, or anal Supplies: Culturette (BBL Culture Swab) (T092) Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Specimen Volume: Swab Additional Information: Primarily to be collected from pediatric patients. Acceptable: Specimen Type: Vaginal Supplies: Culturette (BBL Culture Swab) (T092) Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Specimen Volume: Swab Additional Information: Submission of a vaginal source is limited to Infection Prevention and Control test orders. Specimen Type: Throat or pharynx Supplies: Culturette (BBL Culture Swab) (T092) Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Specimen Volume: Swab Additional Information: Submission of throat or pharynx sources is limited to Infection Prevention and Control test orders. Specimen Type: Skin or wound Supplies: Culturette (BBL Culture Swab) (T092) Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Specimen Volume: Swab Additional Information: Submission of skin or wound sources is limited to Infection Prevention and Control test orders.

Transport Temperature:
- Varies Ambient (preferred) 24 hours
- Refrigerated 24 hours

CPT Code Information: 87081-Strep Grp A (S. pyogenes) culture; 87077-Ident by MALDI-TOF
**Group B Streptococcus (Streptococcus agalactiae) Culture**

**Specimen Requirements:**
- Supplies: Culturette (BBL Culture Swab) (T092)
- Specimen Type: Swab
- Sources: Vaginal/rectal combination swab
- Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092])
- Specimen Volume: Swab
- Additional Information: 1. Vaginal/rectal combination swab is the only acceptable specimen according to Centers for Disease Control and Prevention (CDC) guidelines. Vaginal only, rectal only, or other sources are not acceptable. 2. This assay is used for assessment of carriage of Streptococcus agalactiae (group B streptococcus) in pregnant women.

**Transport Temperature:**
- Varies
- Ambient (preferred) 24 hours
- Refrigerated 24 hours

**CPT Code Information:**
- 87081-Strep Grp B (S. agalactiae) culture
- 87077-Ident by MALDI-TOF mass spec (if appropriate)
- 87077-Bacteria identification (if appropriate)
- 87077-Identification Streptococcus (if appropriate)
- 87147 x 2-6-Serologic Agglut Method 4 Ident (if appropriate)
- 87153-Aerobe ident by sequencing (if appropriate)

**Grouper IgE**

**Specimen Requirements:**
- Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
- Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:**
- 86003

**Growth Differentiation Factor 15 (GDF15), Plasma**

**Specimen Requirements:**
- Container/Tube: Preferred: Lavender top (EDTA) plasma Acceptable: Green top (sodium heparin) plasma Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL
- Collection Instructions: 1. Draw blood into an EDTA or sodium heparin tube and centrifuged immediately. 2. Do not expose specimen to heat or direct sunlight.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Plasma Refrigerated (preferred) 90 days
- Frozen 90 days
- Ambient 28 days
CPT Code Information: 83520

**GRH 70444**

**Growth Hormone (GH) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4- microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**HGH 8688**

**Growth Hormone, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Fasting 2. If multiple specimens are drawn, submit each vial under a separate order. 3. Label specimens appropriately (corresponding draw time).

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 90 days

CPT Code Information: 83003

**FIRGH 90161**

**Growth Hormone-Releasing Hormone (GH-RH)**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Specimen Type: Serum Container/Tube: Red-top tube, serum gel is acceptable. Specimen volume: 3 mL Collection Instructions: Draw blood in a plain, red-top or serum gel tube(s). Separate immediately and send 3 mL of serum frozen in a plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Plasma Specimen Type: Plasma Container/Tube: Lavender-top (EDTA) tube(s). Specimen volume: 3 mL Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s). Separate immediately and send 3 mL of EDTA plasma frozen in a plastic vial. Note: 1. Indicate plasma on request form. 2. Label specimen appropriately (plasma). Patient preparation Patient should not be on any medications that may influence pituitary secretion.

**Specimen Minimum Volume:** 1.0 mL

**Transport Temperature:**
Varies Frozen 365 days

CPT Code Information: 83519
Guar Gum, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Guava, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Guinea Pig Epithelium, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Gum Arabic, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume**: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature**:  
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

**CPT Code Information**: 86003

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**FCGUM 57969**  
**Gum Carageenan IgE**  
**Specimen Requirements**: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**: 0.5 mL  
**Transport Temperature**:  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 28 days

**CPT Code Information**: 86003

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**FGUMX 57974**  
**Gum Xanthan IgE**  
**Specimen Requirements**: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**: 0.5 mL  
**Transport Temperature**:  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 28 days

**CPT Code Information**: 86003

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**FHXACK 57951**  
**Hackberry (Celtis occidentalis) IgE**  
**Specimen Requirements**: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**: 0.5 mL  
**Transport Temperature**:  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 28 days
CPT Code Information: 86003

**FHADE 57556**

**Haddock (Melanogrammus aeglefinus) IgE**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). (Serum gel tube(s) is acceptable.) Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

CPT Code Information: 86003

**HIBS 83261**

**Haemophilus influenzae Type B Antibody, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 86684

**DBA4 70419**

**Hairy Cell Leukemia (DBA44) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**HAKE 82348**

**Hake, Fish, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

FHALG

Halibut IgG

Specimen Requirements: Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

HALI

Halibut, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

HALO

Haloperidol, Serum

Specimen Requirements: Container/Tube: Red top Specimen Volume: 1 mL

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 80173
**HEPI 82780**

**Hamster Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FHVGM 75240**

**Hantavirus Antibody (IgG, IgM)**

**Specimen Requirements:** Container/Tube: Preferred: Red top tube Acceptable: Serum gel tube Specimen Volume: 0.5 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.50 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 7 days

**CPT Code Information:** 86790 x 2

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**HAPT 9168**

**Haptoglobin, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 83010

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**NUTH 82743**

**Hazelnut-Food, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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HAZ 82670  
**Hazelnut-Tree, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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FHDLS 90186  
**HDL Cholesterol Subclasses**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial. Required: Fasting for at least 12 hours. If a cholesterol measurement is to be performed along with other lipid tests, the patient should fast 9 - 12 hours prior to collection.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days

**CPT Code Information:** 83701

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HMSOR 48559  
**Heavy Metal Occupational Exposure, with Reflex, Urine**

**Specimen Requirements:** Patient Preparation: - Patient should not eat seafood for a 48-hour period prior to start of collection. - High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 6 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
Specimen Minimum Volume: 3 mL

Transport Temperature:
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 82175; 82300; 83655; 82570;

HMCRU 48549

Heavy Metal/Creatinine Ratio, with Reflex, Urine

Specimen Requirements:
- Patient Preparation: Patient should not eat seafood for a 48-hour period prior to start of collection. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert

Specimen Minimum Volume: 3 mL

Transport Temperature:
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 82175; 82300; 83655; 82570;

HMDB 39183

Heavy Metals Screen with Demographics, Blood

Specimen Requirements:
- Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original collection tube. Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368381.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
- Whole blood Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

CPT Code Information: 82175-Arsenic; 82300-Cadmium; 83655-Lead; 83825-Mercury;

HMU24 48538

Heavy Metals Screen, with Reflex, 24 Hour, Urine

Specimen Requirements:
- Patient Preparation: High concentrations of gadolinium and iodine...
are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Patient should not eat seafood for a 48-hour period prior to start of collection. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic aliquot container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 82175; 82300; 83825; 83655;

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**HMHA**

**Heavy Metals, Hair**

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g Collection Instructions: Prepare and transport specimen per the instructions in kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. Additional Information: If known, indicate source of hair (axillary, head, or pubic).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**
- Hair Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 82175-Arsenic; 83655-Lead; 83825-Mercury;

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**HMNA**

**Heavy Metals, Nails**

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g Collection Instructions: 1. Prepare and transport specimen per the instructions in the kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. 2. Clippings should be taken from all 10 fingernails or toenails. Additional Information: If known, indicate source of nails (fingernails or toenails).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**
- Nail Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 82175-Arsenic; 83655-Lead; 83825-Mercury;
Helicobacter pylori (H pylori) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Helicobacter pylori Antigen, Feces

**Specimen Requirements:** Supplies: Stool Collection Kit, Random (T635) Submission Container/Tube: Plastic container Specimen Volume: 5 g Collection Instructions: Mix stool well. Additional Information: Falsely negative results may be obtained within 2 weeks of treatment with antimicrobials, bismuth, or proton pump inhibitors—see cautions for details.

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**
Fecal Frozen (preferred) 60 days
Refrigerated 48 hours

**CPT Code Information:** 87338

Helicobacter pylori Breath Test

**Specimen Requirements:** Patient Preparation: 1. Patient should be fasting for 1 hour. 2. Patients should not have taken bismuth/Tritec, antibiotics, proton-pump inhibitors (eg, Prilosec, Prevacid, Aciphex, Protonix, and Nexium) or Pepto-Bismol for 2 weeks prior to testing. If these instructions are not followed, test results may be inaccurate. 3. Histamine 2-receptor antagonists (H[2]RAs) such as Pepcid, Tagamet, Axd, or Zantac should be discontinued for 24 to 48 hours before the BreathTek UBT test is administered. If these instructions are not followed, test results may be inaccurate. 4. Carafate (sucralfate) does not interfere with the test. Use of antacids does not affect the accuracy of this assay. Supplies: H. Pylori Breath Kit (T375: fees apply) Collection Instructions: 1. Do not collect if patient is younger than 3 years of age. 2. Follow instructions included with kit.

**Specimen Minimum Volume:** Bag of "breath" must be full

**Transport Temperature:**
Breath Ambient 7 days

**CPT Code Information:** 83013

Helicobacter pylori Culture
Specimen Requirements: Preferred: Specimen Type: Gastric biopsy Container/Tube: Sterile container Specimen Volume: Entire collection Collection Instructions: Acquire biopsied tissue; moisten with sterile saline. Acceptable: Specimen Type: Gastric brushing or gastric aspirate Container/Tube: Sterile container Specimen Volume: Entire collection Collection Instructions: Aspirate contents with a syringe.

Specimen Minimum Volume: 0.5 mL or 0.5 x 0.2 x 0.2-cm sized piece of tissue

Transport Temperature: Varies Refrigerated 48 hours

CPT Code Information: 87081-Helicobacter pylori culture; 87153-Aerobe Ident by Sequencing (if appropriate); 87077-Bacteria identification (if appropriate); 87176-Tissue processing (if appropriate); 87181-Susceptibility (if appropriate); 87186-Sensitivity, MIC (if appropriate);

**Helicobacter pylori Culture with Antimicrobial Susceptibilities**

Specimen Requirements: Preferred: Specimen Type: Gastric biopsy Container/Tube: Sterile container Specimen Volume: Entire collection Collection Instructions: Acquire biopsied tissue; moisten with sterile saline. Acceptable: Specimen Type: Gastric brushings or gastric aspirate Container/Tube: Sterile container Specimen Volume: Entire collection

Specimen Minimum Volume: 0.5 mL or 0.5 x 0.2 x 0.2-cm sized piece of tissue

Transport Temperature: Varies Refrigerated 48 hours

CPT Code Information: 87081-Helicobacter pylori culture; 87077-Bacteria identification (if appropriate); 87153-Aerobe Ident by Sequencing (if appropriate); 87176-Tissue processing (if appropriate); 87181-Susceptibility (if appropriate); 87186-Sensitivity, MIC (if appropriate);

**Helminthosporium halodes, IgE**

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature: Serum Refrigerated (preferred) 14 days

Frozen 90 days

CPT Code Information: 86003

**Helminthosporium sativum/Drechslera IgE**

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

HOLDC
35848
Hematologic Disorders, Chromosome Hold, Bone Marrow or Peripheral Blood

Specimen Requirements: Provide a reason for referral with each specimen and bone marrow pathology report (if available). The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not sent via courier service. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 2-3 mL Collection Instructions: 1. It is preferable to send the first aspirate from the bone marrow collection. 2. Invert several times to mix bone marrow. 3. Other anticoagulants are not recommended and are harmful to the viability of the cells.

Specimen Minimum Volume: Blood: 2 mL/Bone Marrow: 1 mL

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: See individual reflex tests

EXHR
65114
Hematologic Disorders, DNA and RNA Extract and Hold

Specimen Requirements: Specimen must arrive within 72 hours of draw. Draw and package specimen as close to shipping time as possible. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

Specimen Minimum Volume: Blood, Bone Marrow: 1 mL

Transport Temperature:
Varies Refrigerated (preferred) 72 hours
Ambient 72 hours

CPT Code Information:

EXHD
64779
Hematologic Disorders, DNA Extract and Hold

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Specimen must arrive within 168 hours of draw. Draw and package specimen as close to shipping time as possible. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** Blood, Bone Marrow: 1 mL

**Transport Temperature:**
- Varies Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:**

**HOLDF**
35847

**Hematologic Disorders, Fluorescence In Situ Hybridization (FISH) Hold, Bone Marrow or Peripheral Blood**

**Specimen Requirements:** Provide a reason for referral with each specimen and bone marrow pathology report (if available). The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 2-3 mL Collection Instructions: 1. It is preferable to send the first aspirate from the bone marrow collection. 2. Invert several times to mix bone marrow. 3. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL; Bone Marrow: 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** See individual reflex tests

**HLLFH**
34854

**Hematologic Disorders, Leukemia/Lymphoma; Flow Hold, Varies**

**Specimen Requirements:** Due to specimen stability, spinal fluid is not appropriate for this test. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: Sodium heparin, EDTA Specimen Volume: 10 mL Slides: Include 5- to 10-unstained blood smears, if possible. Collection Instructions: 1. Do not transfer blood to other containers. 2. Label specimen as blood. Specimen Stability Information: Ambient/Refrigerated <96 hours Specimen Type: Bone marrow Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: Sodium heparin, EDTA Specimen Volume: 1-5 mL Slides: Include 5- to 10-unstained bone marrow aspirate smears, if possible. Collection Instructions: 1. Submission of bilateral specimens is not required. 2. Label specimen as bone marrow. Specimen Stability Information: Ambient/Refrigerated <96 hours Specimen Type: Fluid Sources: Serous effusions, pleural, pericardial, or abdominal (peritoneal fluid) Container/Tube: Body fluid container Specimen Volume: 20 mL Collection Instructions: 1. If possible,
fluids should be anticoagulated with heparin (1 U/mL of fluid). 2. The volume of fluid necessary to phenotype the lymphocytes or blasts in serous effusions depends upon the cell count in the specimen. Usually 20 mL of pleural or peritoneal fluid is sufficient. Smaller volumes can be used if there is a high cell count. 3. Label specimen with fluid type. Specimen Stability Information: Refrigerated/Ambient <72 hours Supplies: Hank's Solution (T132) Specimen Type: Tissue Container/Tube: Sterile container with 15 mL of tissue culture medium (eg. Hank's balanced salt solution [T132], RPMI, or equivalent) Specimen Volume: 5 mm(3) or larger biopsy Collection Instructions: 1. Send intact specimen (do not mince). 2. Specimen cannot be fixed. Specimen Stability Information: Refrigerated/Ambient <96 hours

**Specimen Minimum Volume:** Blood: 3 mL Bone Marrow: 1 mL Fluid: 5 mL Tissue: 1 mm(3) or larger biopsy

**Transport Temperature:**

Varies

**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each); 88187-Flow Cytometry Interpretation, 2 to 8 Markers (if appropriate); 88188-Flow Cytometry Interpretation, 9 to 15 Markers (if appropriate); 88189-Flow Cytometry Interpretation, 16 or More Markers (if appropriate); 81405-TP53 (tumor protein 53) (eg, tumor samples), full gene sequence or targeted sequence analysis of >5 exons

**P53CA**

**Hematologic Neoplasms, TP53 Somatic Mutation, DNA Sequencing Exons 4-9**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood (preferred) Container/Tube: EDTA (lavender top), ACD solution B (yellow top), or Heparin (green top) Specimen Volume: 10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability Information: Ambient <96 hours Specimen Type: Bone marrow Container/Tube: EDTA (lavender top), ACD solution B (yellow top), or Heparin (green top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability Information: Ambient <96 hours Specimen Type: Tissue Container/Tube: Plastic container Specimen Volume: 100 mg Collection Instructions: Freeze immediately after collection. Specimen Stability Information: Frozen

**Specimen Minimum Volume:** 5 mL peripheral blood 2 mL bone marrow

**Transport Temperature:**

Varies Ambient (preferred) 4 days

Refrigerated 4 days

**CPT Code Information:** 81405-TP53 (tumor protein 53) (eg, tumor samples), full gene sequence or targeted sequence analysis of >5 exons

**HPCUT**

**Hematopathology Consultation, Client Embed**

**Specimen Requirements:** Information on collecting, packaging, and shipping specimens, is available in Special Instructions: -Bone Marrow Core Biopsy, Clot, and Aspirate Collection Guideline -Assistance with Bone Marrow Collection Submit the following specimens: Specimen Type: Bone marrow aspirate slides Container/Tube: Transport in plastic slide holders Preferred: Fresh prep slides made at the time of sample collection Acceptable: Slides made from anticoagulated sample Collection Instructions: 1. Prepare slides of bone marrow aspirate immediately after collection or prepare slides from bone marrow aspirate in EDTA within 2 hours of collection. 2. If bone marrow units are sparse or absent or aspirate is a dry tap, make biopsy touch prep slides. 3. Air dry slides. 4. Send 5 slides unfixed/unstained. 5. Place Parafilm around the slide carriers holding unstained slides to prevent
exposure to formalin fumes during transport and place slides in a separate bag apart from any formalin-fixed clot or core biopsy specimens during transport. If using slide carriers, make sure they have not been used to carry fixed slides previously. Specimen Type: Bone marrow aspirate in anticoagulant for possible ancillary testing Container/Tube: EDTA, heparin, and ACD Specimen Volume: 5 mL in EDTA, 2-5 mL in ACD, and 2-3 mL in heparin tube Collection Instructions: 1. Aspirate per standard bone marrow collection procedure. 2. Do not transfer to other tubes or containers. Specimen Type: Bone marrow core biopsy Container/Tube: Fixed biopsy core embedded in paraffin block Collection Instructions: Process and embed core in paraffin. Specimen Type: Bone marrow aspirate clot Container/Tube: Bone marrow clot embedded in paraffin block Collection Instructions: Process and embed clot in paraffin Specimen Type: Peripheral blood slides and CBC Container/Tube: Transport in plastic slide holders. Preferred: Fresh prep fingerstick slide; include CBC values Acceptable: Slides made from whole blood in EDTA, made within 8 hours of collection Collection Instructions: 1. Prepare good quality smear of even thickness from fingerstick. 2. Alternately prepare good quality smear from EDTA vial within 8 hours of collection. 3. Submit unstained and unfixed slides.

Transport Temperature:
Varies Ambient

CPT Code Information: 88321 (if appropriate); 88323 (if appropriate); 88325 (if appropriate);

Hematopathology Consultation, MML Embed

Specimen Requirements: Information on collecting, packaging, and shipping specimens, is available in Special Instructions: -Bone Marrow Core Biopsy, Clot, and Aspirate Collection Guideline -Assistance with Bone Marrow Collection Submit the following specimens: Supplies: Bone Marrow Collection Kit (T793) 1. Unprocessed bone marrow core biopsy and/or clot 2. Bone marrow biopsy touch prep slides (3) 3. Bone marrow aspirate a) Fresh, unfixed, unstained slides -i. Direct prep (2) -ii. Unit prep (3) b) Liquid (order of collection) -i. EDTA (lavender): 3mL -ii. ACD (yellow): 4 mL -iii. Sodium Heparin (green): 3 mL 4. Unstained peripheral blood smears (2; fingerstick preferred)

Transport Temperature:
Varies Ambient

CPT Code Information: 85007 (if appropriate); 85060 (if appropriate); 85097 (if appropriate); 88305 (if appropriate); 88311 (if appropriate);

Hemiplegic Migraine Sequencing Evaluation

Specimen Requirements: Specimen Type: Whole Blood Container/Tube: Lavender-top (EDTA) Specimen Volume: 8 mL Collection Instructions: Draw 8 mL whole blood in a lavender-top (EDTA) tube(s) and ship refrigerator. Note: Collection date is required.

Specimen Minimum Volume: 6 mL

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred) 10 days
Ambient 10 days

CPT Code Information: 81406; 81407 x 2; ;
Hemochromatosis HFE Gene Analysis, Blood

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogeneic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2.5 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Frozen
  - Refrigerated

**CPT Code Information:** 81256-HFE (hemochromatosis) (eg, hereditary hemochromatosis) gene analysis, common variants (eg, C282Y, H63D)

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**Hemoglobin (Hb) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Hemoglobin A1c, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
  - Frozen 7 days
  - Ambient 24 hours

**CPT Code Information:** 83036

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**Hemoglobin Electrophoresis Cascade, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD (solution B), green top (sodium heparin) Specimen Volume: 10 mL Collection Instructions: Send
specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Whole Blood EDTA Refrigerated 7 days

**CPT Code Information:** Hemoglobin Electrophoresis Cascade; 83020-Quantitation by electrophoresis; 83021-Quantitation by HPLC; ; IEF Confirms; 82664-Electrophoresis, not elsewhere specified (if appropriate); ; Hemoglobin, Unstable, Blood; 83068 (if appropriate); ; Hemoglobin Variant by Mass Spectrometry (MS), Blood; 83789 (if appropriate); ; Hemoglobin F, Red Blood Cell Distribution, Blood; 88184 (if appropriate);

**HPFH**  
**8270**  
**Hemoglobin F, Red Cell Distribution, Blood**  
**Specimen Requirements:** Only orderable as a reflex. For more information see: -HAEVP / Hemolytic Anemia Evaluation -HBELC / Hemoglobin Electrophoresis Cascade, Blood -MEVP / Methemoglobinemia Evaluation -REVE / Erythrocytosis Evaluation -THEVP / Thalassemia and Hemoglobinopathy Evaluation  
**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Whole Blood EDTA Refrigerated 7 days

**CPT Code Information:** 88184

**SDEX**  
**9180**  
**Hemoglobin S, Screen, Blood**  
**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD (solution B), heparin Specimen Volume: 1 mL  
**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Whole Blood EDTA Refrigerated 7 days

**CPT Code Information:** 85660

**HGBCE**  
**65039**  
**Hemoglobin Variant, A2 and F Quantitation, Blood**  
**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: ACD, heparin Specimen Volume: 4 mL Collection Instructions: 1. Submit fresh specimen. 2. Do not transfer blood to other containers.  
**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Whole Blood EDTA Refrigerated 10 days

**CPT Code Information:** 83020-Quantitation by Electrophoresis
Hemoglobin, Blood

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole Blood EDTA: Refrigerated (preferred) 48 hours
- Ambient: 24 hours

**CPT Code Information:** 85018

Hemoglobin, Qualitative, Urine

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated 72 hours

**CPT Code Information:** 81002

Hemolytic Anemia Evaluation

**Specimen Requirements:** Two whole blood EDTA specimens, 2 whole blood ACD specimens, an EDTA control specimen, and 2 well-made peripheral blood smears (Wright stained or fixed in absolute methanol) are required for testing. Patient: Specimen Type: Blood Container/Tube: Lavender top (EDTA) and yellow top (ACD) Specimen Volume: EDTA: Two 4-mL vials ACD: Two 6-mL vials Collection Instructions: 1. Immediately refrigerate specimens after draw. 2. Send specimens in original tubes. Do not aliquot. 3. Prepare smears. 4. Rubber band patient specimen and control vial together. Patient: Specimen Type: Slides Container/Tube: Blood smears Specimen Volume: 2 well-made peripheral blood smears Collection Instructions: Collect 2 well-made peripheral blood smears (Wright stained or fixed in absolute methanol). Shipping Normal Control: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated, nonsmoking person at the same time as the patient. 2. Label clearly on outermost label normal control. 3. Immediately refrigerate specimen after draw. 4. Send specimen in original tube. Do not aliquot. 5. Rubber band patient specimen and control vial together.

**Specimen Minimum Volume:**
- EDTA Blood: 3 mL
- ACD Blood: 5 mL

**Transport Temperature:**
- Control Refrigerated 72 hours
- Whole Blood ACD-B Refrigerated 72 hours
- Whole Blood EDTA Refrigerated 72 hours
- Whole Blood Slide Refrigerated

**CPT Code Information:** Hemolytic Anemia Evaluation; 82657-Hexokinase, B; 82955-G-6-PD; 83020-Hemoglobin electrophoresis; 83021-Hemoglobin A2 and F; 83068-Hemoglobin stability; 84087-Glucose phosphate isomerase; 84220-Pyruvate kinase; 85060-Morphology review; 85557-Osmotic fragility; Band 3 Fluorescence Staining, RBC; 88184; Reflexed RBC Enzymes;
**F8INP**

**Hemophilia A F8 Gene, Intron 1 and 22 Inversion Mutation Analysis, Amniotic Fluid or Chorionic Villus Sampling**

**Specimen Requirements:** Advise Express Mail or equivalent if not on courier service. Results will be reported and also telephoned or faxed, if requested. Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Submit only 1 of the following specimens:

- **Specimen Type:** Amniotic fluid
  - **Container/Tube:** Amniotic fluid container
  - **Specimen Volume:** 5-10 mL
  - **Collection Instructions:** 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted.
  2. Discard the first 2 mL of amniotic fluid. If the culture will be performed in conjunction with chromosome analysis and alpha-fetoprotein, a total of approximately 25 mL to 30 mL will be needed for the combined studies.
  - **Specimen Stability Information:** Ambient (preferred) <24 hours / Refrigerated

- **Specimen Type:** Chorionic villi
  - **Container/Tube:** 15-mL tube containing 15 mL of transport media
  - **Specimen Volume:** 20-30 mg
  - **Collection Instructions:** 1. Collect specimen by the transabdominal or transcervical method.
  2. Transfer the chorionic villi specimen to a Petri dish containing transport medium (T095).
  3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua.
  - **Specimen Stability Information:** Refrigerated (preferred) <24 hours / Ambient

Additional Information:
1. Place the tubes in a Styrofoam container (T329).
2. Fill remaining space with packing material.
3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable.
4. Bloody specimens are undesirable.
5. If the specimen does not grow in culture, you will be notified within 7 days of receipt.

**Specimen Minimum Volume:** Amniotic fluid: 10 mL / Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies

**CPT Code Information:** 81403

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**F8INV**

**Hemophilia A F8 Gene, Intron 1 and 22 Inversion Mutation Analysis, Whole Blood**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant.

- **Container/Tube:** Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Sodium citrate
- **Specimen Volume:** 3 mL
- **Collection Instructions:** 1. Invert several times to mix blood.
  2. Send specimen in original tube.
  - Additional Information: Each molecular coagulation test requested must have its own tube.

**Specimen Minimum Volume:** 1 mL blood

**Transport Temperature:**
- Whole blood: Ambient (preferred) 7 days
  - Frozen: 7 days

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 504
Hemophilia A F8 Gene, Intron 1 Inversion Known Mutation Analysis, Amniotic Fluid or Chorionic Villus Sampling

**Specimen Requirements:** Advise Express Mail or equivalent if not on courier service. Results will be reported and also telephoned or faxed, if requested. Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Submit only 1 of the following specimens: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 5-10 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. 2. Discard the first 2 mL of amniotic fluid. If the culture will be performed in conjunction with chromosome analysis and alpha-fetoprotein, a total of approximately 25 to 30 mL will be needed for the combined studies. Specimen Stability Information: Ambient (preferred) <24 hours/Refrigerated Additional Information: 1. Place the tubes in a Styrofoam container (T329). 2. Fill remaining space with packing material. 3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 4. Bloody specimens are undesirable. 5. If the specimen does not grow in culture, you will be notified within 7 days of receipt. Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20-30 mg Collection Instructions: 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer the chorionic villi specimen to a Petri dish containing transport medium (T095). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua. Specimen Stability Information: Refrigerated (preferred) <24 hours/Ambient Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks approximately 90% confluent Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred) <24 hours/Refrigerated Additional Information: There will be no culture charge.

**Specimen Minimum Volume:** Amniotic fluid: 10 mL Chorionic villi: 5 mg

**Transport Temperature:**

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<thead>
<tr>
<th>Type</th>
<th>Temperature</th>
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<td>Amniotic fluid</td>
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<td>Chorionic villi</td>
<td>Refrigerated (preferred) &lt;24 hours</td>
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**CPT Code Information:** 81403
CPT Code Information: 81403

**F822B 60554**

**Hemophilia A F8 Gene, Intron 22 Inversion Known Mutation, Whole Blood**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Sodium citrate Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Each molecular coagulation test requested must have its own tube.

**Specimen Minimum Volume:** 1 mL blood

**Transport Temperature:**

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<th>Condition</th>
<th>Temperature</th>
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CPT Code Information: 81403

**F822P 89454**

**Hemophilia A F8 Gene, Intron 22 Inversion Mutation Analysis, Amniotic Fluid or Chorionic Villus Sampling**

**Specimen Requirements:** Advise Express Mail or equivalent if not on courier service Results will be reported and also telephoned or faxed, if requested. Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. Submit only 1 of the following specimens: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 5-10 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. 2. Discard the first 2 mL of amniotic fluid. If the culture will be performed in conjunction with chromosome analysis and alpha-fetoprotein, a total of approximately 25 to 30 mL will be needed for the combined studies. Specimen Stability Information: Ambient (preferred) <24 hours Refrigerated Additional Information: 1. Place the tubes in a Styrofoam container (T329). 2. Fill remaining space with packing material. 3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 4. Bloody specimens are undesirable. 5. If the specimen does not grow in culture, you will be notified within 7 days of receipt. Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20-30 mg Collection Instructions: 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer the chorionic villi specimen to a Petri dish containing transport medium (T095). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua. Specimen Stability Information: Refrigerated (preferred) <24 hours Ambient Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks approximately 90% confluent Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred) <24 hours Refrigerated Additional Information: There will be no culture charge.
**Specimen Minimum Volume:** Amniotic fluid: 10 mL  Chorionic villi: 5 mg

**Transport Temperature:**
Vars Varies

**CPT Code Information:** 81403

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**Hemophilia B, F9 Gene Known Mutation Analysis, Amniotic Fluid or Chorionic Villus Sampling**

**Specimen Requirements:** Advise Express Mail or equivalent if not on courier service. Results will be reported and also telephoned or faxed, if requested. Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal peripheral blood specimen. A. For the purposes of maternal cell contamination studies (MCC), submit the following specimen type from the mother in addition to 1 of the 3 accepted fetal specimen types: Specimen Type: Peripheral blood Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: EDTA or sodium citrate Specimen Volume: 6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated B. For the purposes of prenatal testing of the fetus, submit only 1 of the following specimens: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 5-10 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. 2. Discard the first 2 mL of amniotic fluid. If the culture will be performed in conjunction with chromosome analysis and alpha-fetoprotein, a total of approximately 25 mL to 30 mL will be needed for the combined studies. Specimen Stability Information: Ambient (preferred) <24 hours/Refrigerated Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20-30 mg Collection Instructions: 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer the chorionic villi specimen to a Petri dish containing transport medium (T095). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua. Specimen Stability Information: Refrigerated (preferred) <24 hours/Ambient Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks approximately 90% confluent Collection Instructions: Submit confluent cultured cells from another laboratory Specimen Stability Information: Ambient (preferred) <24 hours/Refrigerated Additional Information: 1. Place the tubes in a Styrofoam container (T329). 2. Fill remaining space with packing material. 3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 4. Bloody specimens are undesirable. 5. If the specimen does not grow in culture, you will be notified within 7 days of receipt. 6. There will be no culture charge.

**Specimen Minimum Volume:** Amniotic fluid: 10 mL  Chorionic Villi: 5 mg

**Transport Temperature:**
Vars Varies

**CPT Code Information:** 81403

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**Hemophilia B, F9 Gene Known Mutation, Whole Blood**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: EDTA or sodium citrate Specimen Volume: 6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.
**F9MAP**

**Hemophilia B, F9 Gene Mutation Analysis, Amniotic Fluid or Chorionic Villus Sampling**

**Specimen Requirements:** Advise Express Mail or equivalent if not on courier service. Results will be reported and also telephoned or faxed, if requested. Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal peripheral blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen. A. For the purposes of maternal cell contamination studies (MCC), submit the following specimen type from the mother in addition to 1 of the 3 accepted fetal specimen types: Specimen Type: Peripheral blood Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: EDTA or sodium citrate Specimen Volume: 6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated B. For the purposes of prenatal testing of the fetus, submit only 1 of the following specimens: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 5-10 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. 2. Discard the first 2 mL of amniotic fluid. If the culture will be performed in conjunction with chromosome analysis and alpha-fetoprotein, a total of approximately 25 mL to 30 mL will be needed for the combined studies. Specimen Stability Information: Ambient (preferred) <24 hours/Refrigerated Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20-30 mg Collection Instructions: 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer the chorionic villi specimen to a Petri dish containing transport medium (T095). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua. Specimen Stability Information: Refrigerated (preferred) <24 hours/Ambient Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks approximately 90% confluent Collection Instructions: Submit confluent cultured cells from another laboratory Specimen Stability Information: Ambient (preferred) <24 hours/Refrigerated Additional Information: 1. Place the tubes in a Styrofoam container (T329). 2. Fill remaining space with packing material. 3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 4. Bloody specimens are undesirable. 5. If the specimen does not grow in culture, you will be notified within 7 days of receipt. 6. There will be no culture charge.

**Specimen Minimum Volume:** Amniotic fluid: 10 mL / Chorionic Villi: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81238

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**FIXMS**

**Hemophilia B, F9 Gene Mutation Analysis, Whole Blood**

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD)
Acceptable: Sodium citrate Specimen Volume: 6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole blood: Ambient (preferred) 7 days
- Frozen: 7 days
- Refrigerated: 7 days

**CPT Code Information:** 81238-F9 (coagulation factor IX) (eg, hemophilia B), full gene sequence

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**HemoQuant, Feces**

**Specimen Requirements:** Collection Container/Tube: Spoon-like sampler from kit (T134) Submission Container/Tube: Screw-capped tube Specimen Volume: 1 g Collection Instructions: Collect random specimen from a single defecation. Additional Information: Patient should be instructed to refrain from red meat and aspirin for 3 days prior to specimen collection.

**Specimen Minimum Volume:** 1 g

**Transport Temperature:**
- Fecal: Refrigerated (preferred) 7 days
- Ambient: 7 days
- Frozen

**CPT Code Information:** 84126

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**Hemosiderin, Urine**

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 13 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 12 mL

**Transport Temperature:**
- Urine: Refrigerated (preferred)
  - Frozen

**CPT Code Information:** 83070

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**Hemp Western Water (Acnida tamariscina) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
**CPT Code Information:** 86003

**HEPTP 40938**

**Heparin Anti-Xa, Plasma**

**Specimen Requirements:** Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (3.2% sodium citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down, remove plasma and spin plasma again Additional Information: Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma Na Cit Frozen (preferred) 14 days
- Ambient 2 hours

**CPT Code Information:** 85520

**FHPCEF 91658**

**Heparin Cofactor II**

**Specimen Requirements:** Draw blood in a light blue-top (sodium citrate) tube. Spin down and send 1 mL of citrated plasma frozen in a plastic vial. Note: Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 0.5 mL volume does NOT allow for repeat testing.

**Transport Temperature:**
- Plasma Na Cit Frozen

**CPT Code Information:** 85130

**HITIG 86533**

**Heparin-PF4 IgG Antibody (HIT), Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red Frozen (preferred) 14 days
- Refrigerated 48 hours

**CPT Code Information:** 86022
HAIGG 48051

Hepatitis A IgG Antibody, Serum


Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Refrigerated (preferred) 8 days
Ambient 4 days

CPT Code Information: 86708

HAIGM 48064

Hepatitis A IgM Antibody, Serum


Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Ambient 72 hours

CPT Code Information: 86709

FHASQ 75120

Hepatitis A Qualitative PCR HAV SuperQual

Specimen Requirements: Submit only 1 of the following: Plasma Draw blood in a yellow-top (ACD) or purple-top (EDTA) tube(s). Spin down and send 1 mL ACD or EDTA plasma frozen in a plastic vial. Serum Draw blood in a plain red-top tube(s). Serum gel tube(s) is acceptable. Spin down and send 1 mL serum frozen in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Varies Frozen

CPT Code Information: 87798

HEPBC 70451

Hepatitis B Core (HBc) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Specimen Minimum Volume: N/A

Transport Temperature:
**Hepatitis B Core Antibody, IgM, Serum**

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer’s instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum SST  Frozen (preferred)
- Refrigerated 7 days
- Ambient 24 hours

**CPT Code Information:** 86705

**Hepatitis B Core Total Antibodies, Serum**

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and remove serum from gel within 24 hours.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum SST  Frozen (preferred)
- Refrigerated 7 days
- Ambient 24 hours

**CPT Code Information:** 86704

**Hepatitis B Core Total Antibodies, with Reflex to Hepatitis B Core Antibody IgM, Serum**

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and remove serum from clot within 24 hours.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
HEAB 80973

**Hepatitis B e-Antibody, Serum**

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and remove serum from gel within 24 hours.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum SST Frozen (preferred)
- Refrigerated 7 days
- Ambient 24 hours

**CPT Code Information:** 86707

HEAG 8311

**Hepatitis B e-Antigen and Hepatitis B e-Antibody, Serum**

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: Spin down and remove serum from gel within 24 hours.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum SST Frozen (preferred)
- Refrigerated 7 days
- Ambient 24 hours

**CPT Code Information:** 86707; 87350;

EAG 80510

**Hepatitis B e-Antigen, Serum**

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and remove serum from gel within 24 hours.

**Specimen Minimum Volume:** 0.5 mL
Hepatitis B Perinatal Exposure Follow-up Panel, Serum

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum SST Frozen (preferred) 30 days

Refrigerated 7 days

Ambient 24 hours

**CPT Code Information:** 87350; 87893

Hepatitis B Surface Antibody Monitor, Post-Transplant, Serum

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and remove serum from clot.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum SST Frozen (preferred) 30 days

Refrigerated 7 days

Ambient 24 hours

**CPT Code Information:** 86317

Hepatitis B Surface Antibody, Qualitative/Quantitative, Serum

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum SST Frozen (preferred) 30 days

Refrigerated 7 days

Ambient 24 hours
HEPBS
70453

**Hepatitis B Surface Antigen (HBs) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 86706

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HBNTP
35936

**Hepatitis B Surface Antigen Confirmation Prenatal, Serum**

**Specimen Requirements:** Only orderable as a reflex. For more information see HBAGP / Hepatitis B Surface Antigen Prenatal, Serum. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
Serum SST Frozen (preferred)

Refrigerated 7 days

Ambient 24 hours

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

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HBAGP
86185

**Hepatitis B Surface Antigen Prenatal, Serum**

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Serum SST Frozen (preferred)

Refrigerated 7 days

Ambient 24 hours

CPT Code Information: 87340-Hepatitis B surface antigen prenatal; 87341-Hepatitis B surface antigen confirmation prenatal (if appropriate);
**Hepatitis B Surface Antigen, Serum**

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum SST: Frozen (preferred) 30 days
- Refrigerated: 7 days
- Ambient: 24 hours

**CPT Code Information:** 87340-HBsAg; 87341-HBsAg confirmation (if appropriate);

**Hepatitis B Virus (HBV) DNA Detection and Quantification by Real-Time PCR, Serum**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Serum gel Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 1.5 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Serum SST: Frozen (preferred) 84 days
- Refrigerated: 6 days

**CPT Code Information:** 87517

**Hepatitis B Virus Genotyping**

**Specimen Requirements:** Draw blood in lavender (EDTA) tube(s). Spin down and send 2 mL plasma frozen in a plastic vial. Required: 1. Viral Load 2. Viral Load Date Note: Red-top serum and serum gel tube(s) are acceptable. Note: This test may be unsuccessful if the HBV Viral load is less than log 3.0 or 1,000 IU/mL of plasma.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma EDTA: Frozen (preferred) 42 days
- Refrigerated: 7 days
- Ambient: 72 hours

**CPT Code Information:** 87912

**Hepatitis Bs Antigen (HBsAg) for Cadaveric or Hemolyzed Specimens, Serum**

**Current as of October 16, 2018 7:53 pm CDT**
**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
Serum Frozen (preferred) 30 days
Ambient 7 days
Refrigerated 7 days

**CPT Code Information:** 87340; 87341 (if appropriate);

**Hepatitis C Antibody Screen with Reflex to HCV RNA by PCR, Serum**

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum SST Frozen (preferred) 30 days
Refrigerated 5 days

**CPT Code Information:** 86803 and G0472; 87522 (if appropriate);

**Hepatitis C Antibody with Reflex to HCV RNA by PCR, Serum**

**Specimen Requirements:** Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum SST Frozen (preferred) 30 days
Refrigerated 5 days

**CPT Code Information:** 86803; 87522-(if appropriate);

**Hepatitis C Viral RNA Genotype 1 NS3 Drug Resist**

**Specimen Requirements:** Submit one of the following: Plasma (Preferred) Specimen Type: Plasma Container/Tube: lavender-top EDTA tube or white top (EDTA PPT) tube Specimen Volume: 2 mL Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s) or white top (EDTA PPT) tube(s). Spin down within 2 hours and send 2 mL of EDTA plasma refrigerated in a plastic vial. Serum Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL serum in a screw-capped vial, shipped refrigerate.
Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Varies Refrigerated (preferred) 14 days
- Frozen 42 days
- Ambient 72 hours

CPT Code Information: 87902

**FH1N5 75187**

Hepatitis C Viral RNA Genotype 1 NS5a Drug Resistance

**Specimen Requirements:** Please submit one of the following: Plasma: Specimen Type: Plasma (Preferred) Container/Tube: EDTA (lavender-top) tube(s). Specimen volume: 2 mL Collection Instructions: Draw blood in an EDTA (lavender-top) tube(s). (Plasma gel tube is acceptable.) Spin down and send 2 mL plasma refrigerated in a plastic vial. Serum: Specimen Type: Serum Container/Tube: Red-top tube, serum gel is acceptable. Specimen volume: 2 mL Collection Instructions: Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 2 mL serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Varies Refrigerated (preferred) 14 days
- Frozen 42 days
- Ambient 72 hours

CPT Code Information: 87902

**FHEPC 75028**

Hepatitis C Viral RNA Genotype 1 NS5b Drug Resistance

**Specimen Requirements:** Submit only one of the following: Plasma: Draw blood in a (lavender-top) EDTA tube(s). Plasma gel tube is acceptable. Spin down and send 2 mL plasma refrigerated in a plastic vial. Serum: Draw blood in a plain red-top tube(s). Serum gel tube is acceptable. Spin down and send 2 mL serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Varies Refrigerated (preferred) 14 days
- Frozen 42 days
- Ambient 72 hours

CPT Code Information: 87902

**FH3N5 75188**

Hepatitis C Viral RNA Genotype 3 NS5a Drug Resistance

**Specimen Requirements:** Submit one of the following: Plasma: Draw blood in a (lavender-top) EDTA tube(s). (Plasma gel tube is acceptable.) Spin down and send 2 mL plasma refrigerated in a plastic vial. Serum: Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 2
mL serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 42 days
  - Ambient 72 hours

**CPT Code Information:** 87902

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**HCVQN**

**Hepatitis C Virus (HCV) RNA Detection and Quantification by Real-Time Reverse Transcription-PCR (RT-PCR), Serum**

**Specimen Requirements:**
- Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Serum gel Submission Container/Tube: Polypropylene vial (T465)
- Specimen Volume: 1.5 mL

**Collection Instructions:**
1. Centrifuge blood collection tube per collection tube manufacturer's instructions.
2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Serum SST Frozen (preferred) 84 days
  - Refrigerated 6 days

**CPT Code Information:** 87522

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**HCVL**

**Hepatitis C Virus Antibody Confirmation, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.4 mL

**Collection Instructions:** Spin down and remove serum from clot within 24 hours.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
  - Refrigerated 7 days

**CPT Code Information:** 86804

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**HCCDD**

**Hepatitis C Virus Antibody in Cadaveric or Hemolyzed Specimens, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Frozen (preferred) 28 days
**HCCAD 87858**

**Hepatitis C Virus Antibody Screen for Cadaveric or Hemolyzed Specimens, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel  Acceptable: Red top Submission Container/Tube: Plastic vial  Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**

Serum Frozen (preferred)  28 days

Ambient  7 days

Refrigerated  7 days

**CPT Code Information:** 86803; G0472; 86804 (if appropriate);

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**HCVG 81618**

**Hepatitis C Virus Genotype, Serum**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Serum gel Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 5 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube. Additional Information: Specimens should contain a recommended minimum HCV viral load of 500 IU/mL.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**

Serum SST  Frozen (preferred)  42 days

Refrigerated  72 hours

**CPT Code Information:** 87902

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**HCVQG 603602**

**Hepatitis C Virus RNA Quantification with Reflex to HCV Genotype, Serum**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Serum gel Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 3.5 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 1.6 mL

**Transport Temperature:**

Serum SST  Frozen (preferred)  42 days

Refrigerated  72 hours

**CPT Code Information:** 86803; 86804 (if appropriate);
**AHDV** 9209

**Hepatitis D Virus Total Antibodies, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1 mL

**Collection Instructions:**
1. Centrifuge blood collection tube per collection tube manufacturer's instructions.
2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 30 days

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**HEVG** 86211

**Hepatitis E Virus IgG Antibody, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum SST Frozen (preferred)
- Refrigerated 24 hours

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**HEVML** 61903

**Hepatitis E Virus IgM Antibody Confirmation, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum SST Frozen (preferred)
- Refrigerated 7 days

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**HEVM** 86212

**Hepatitis E Virus IgM Antibody Screen with Reflex to Confirmation, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.1 mL
**Transport Temperature:**
Serum SST  Frozen (preferred)

Refrigerated 24 hours

**CPT Code Information:** 86790

**HEVQU**

**Hepatitis E Virus RNA Detection and Quantification by Real-Time RT-PCR, Serum**

**Specimen Requirements:**
Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1.2 mL
Collection Instructions: Spin down and separate serum from blood cells within 6 hours of collection.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Serum SST  Frozen (preferred)  35 days

Refrigerated  5 days

**CPT Code Information:** 87798

**HCCPR**

**Hepatocellular Carcinoma Risk Panel**

**Specimen Requirements:**
Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Frozen (preferred)  90 days

Refrigerated  5 days

**CPT Code Information:** 82107-L3AFP; 83951-DCP;

**HEPAT**

**Hepatocyte (HEP) Immunostain, Technical Component Only**

**Specimen Requirements:**
Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
Hepatocyte Nuclear Factor 1Beta (HNF-1beta) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

HER-2/neu, Quantitative, ELISA

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL serum in a screw-capped vial, shipped frozen.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Frozen

**CPT Code Information:** 83950

HER2 Amplification Associated with Breast Cancer, FISH, Tissue

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
Tissue Ambient (preferred)
Refrigerated

**CPT Code Information:** 88271x2, 88291 - DNA probe, each (first probe set), Interpretation and report; 88274 w/modifier 52 - Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 - Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 - Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); Reflex Tests; HERBN/HER2, Breast, Quantitative Immunohistochemistry, Automated, ; 88361 (as appropriate);
Cancer, FISH, Tissue

**Specimen Requirements**: Submit only 1 of the following specimens: Specimen Type: Tissue
Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume**: Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature**: Tissue Ambient (preferred)
Refrigerated

**CPT Code Information**: 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

H2URF 35850

HER2 Amplification Associated with Urothelial Carcinoma, FISH, Tissue

**Specimen Requirements**: Submit only 1 of the following specimens: Specimen Type: Tissue
Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume**: Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature**: Tissue Ambient (preferred)
Refrigerated

**CPT Code Information**: 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

H2MTF 35274

HER2 Amplification, Miscellaneous Tumor, FISH, Tissue

**Specimen Requirements**: Submit only 1 of the following specimens: Specimen Type: Tissue
**HER2 Immunostain, Without Interpretation**

**HER2I 70457**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**HER2, Breast, DCIS, Quantitative Immunohistochemistry, Manual No Reflex**

**HERDN 71498**

**Specimen Requirements:** Specimen Type: Preferred: A paraffin-embedded tissue block containing breast cancer tissue that has been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours and shipped at ambient temperature Acceptable: 2 unstained sections, containing breast carcinoma, on charged slides cut at 4 microns less than 1 month ago and shipped at ambient temperature. Tissue on the slides should have been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours. Supplies: Pathology Packaging Kit (T554) Container/Tube: Pathology Packaging Kit (T554) Collection Instructions: 1. Submit paraffin-embedded tissue block from ductal carcinoma in situ or solid/intracystic papillary carcinoma breast carcinoma tissue. 2. Paraffin blocks will be returned with final report.

**Specimen Minimum Volume:** Entire block

**Transport Temperature:**
Special Ambient (preferred)
Refrigerated

**HERDM**

**70915**

**HER2, Breast, DCIS, Quantitative Immunohistochemistry, Manual with HER2 FISH Reflex**

**Specimen Requirements:** Supplies: Pathology Packaging Kit (T554) Specimen Type: Preferred: A paraffin-embedded tissue block containing breast cancer tissue that has been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours and shipped at ambient temperature. Acceptable: 5 unstained sections containing breast carcinoma on charged slides cut at 4 microns less than 1 month ago and shipped at ambient temperature. Tissue on the slides should have been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours. Container/Tube: Pathology Packaging Kit (T554) Collection Instructions: 1. Submit paraffin-embedded ductal carcinoma in situ or solid intracystic papillary carcinoma breast carcinoma tissue. 2. Paraffin blocks will be returned with final report.

**Specimen Minimum Volume:** Entire specimen

**Transport Temperature:** Special Ambient (preferred)

Refrigerated

**CPT Code Information:** 88360

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**HERBA**

**70912**

**HER2, Breast, Quantitative Immunohistochemistry, Automated with HER2 FISH Reflex**

**Specimen Requirements:** Supplies: Pathology Packaging Kit (T554) Specimen Type: Preferred: A paraffin-embedded tissue block containing breast cancer tissue that has been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours and shipped at ambient temperature. Acceptable: 5 unstained sections containing breast carcinoma on charged slides cut at 4 microns <1 month ago and shipped at ambient temperature. Tissue on the slides should have been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours. Container/Tube: Pathology Packaging Kit (T554) Collection Instructions: 1. Submit paraffin-embedded invasive or metastatic breast carcinoma tissue. Additional Information: 1. When ordering this test, the following questions, as stated on the order form or presented electronically, must be answered: a. "Was specimen fixed in 10% neutral buffered formalin within 1 hour from surgical collection time? Yes, No, or Unknown." b. "Has specimen been fixed in 10% neutral buffered formalin for 6 to 72 hours? Yes, No, or Unknown." 2. According to the College of American Pathologists (CAP)/American Society of Clinical Oncology (ASCO) guidelines, HER2 protein immunohistochemical test results are only valid for non-decalcified, paraffin-embedded specimens fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total time of 6 to 72 hours. Under- or overfixation may affect these results. 3. HER2 immunohistochemistry testing on intracystic papillary carcinoma and solid papillary carcinoma, without clearly stating invasive carcinoma, is not appropriate and will be canceled without processing. 4. Paraffin blocks will be returned with final report.

**Transport Temperature:** Special Ambient (preferred)

Refrigerated

**CPT Code Information:** 88360
**HERBN 70913**

**HER2, Breast, Quantitative Immunohistochemistry, Automated, No Reflex**

**Specimen Requirements:**
Supplies: Pathology Packaging Kit (T554)  
Specimen Type: Preferred: A paraffin-embedded tissue block containing breast cancer tissue that has been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours and shipped at ambient temperature. Acceptable: 2 unstained sections, containing breast carcinoma, on charged slides cut at 4 microns less than 1 month ago and shipped at ambient temperature. Tissue on the slides should have been fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total of 6 to 72 hours.  
Container/Tube: Pathology Packaging Kit (T554)  
Collection Instructions: Submit paraffin-embedded invasive or metastatic breast carcinoma tissue.  
Additional Information: 1. When ordering this test, the following questions, as stated on the order form or presented electronically, must be answered: a."Was specimen fixed in 10% NB formalin w/in 1 hour? Yes, No, or Unknown"  
b."Was specimen fixed in 10% NB formalin 6-72 hours? Yes, No, or Unknown"  
2. According to the College of American Pathologists (CAP)/American Society of Clinical Oncology (ASCO) guidelines, HER2 protein immunohistochemical test results are only valid for nondecalcified, paraffin-embedded specimens fixed in 10% neutral buffered formalin within 1 hour from surgical collection time and for a total time of 6 to 72 hours. Under- or overfixation may affect these results.  
3. HER2 immunohistochemistry testing on intracystic papillary carcinoma and solid papillary carcinoma, without clearly stating invasive carcinoma, is not appropriate and will be canceled without processing.  
4. Paraffin blocks will be returned with final report.  

**Specimen Minimum Volume:** Entire block  

**Transport Temperature:**  
Special Ambient (preferred)  
Refrigerated

**CPT Code Information:** 88361

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**HERGM 70911**

**HER2, Gastric/Esophageal, Semi-Quantitative Immunohistochemistry, Manual**

**Specimen Requirements:**  
Only formalin-fixed, paraffin-embedded (FFPE) gastric or esophageal adenocarcinoma specimens will be accepted. Fixation in 10% neutral-buffered formalin is preferred. The performance and quality of immunohistochemical stains in 10% neutral-buffered FFPE tissue depends on proper fixation. It is recommended (not required) for surgical specimens to be fixed between 18 and 24 hours and biopsy specimens between 6 and 8 hours. If being ordered for prognostic purposes:  
Specimen Type: Gastric or esophageal adenocarcinoma  
Supplies: Pathology Packaging Kit (T554)  
Preferred: Paraffin-embedded tissue block containing invasive gastric or esophageal adenocarcinoma tissue  
Additional Information: Paraffin blocks will be returned with final report. Acceptable: Slides  
Specimen Volume: 5  
Collection Instructions: 5 unstained sections, containing gastric or esophageal adenocarcinoma, on charged slides cut at 4 microns less than 1 month ago.  

**Transport Temperature:**  
Special Ambient (preferred)  
Refrigerated

**CPT Code Information:** 88361
HER2, Gastric/Esophageal, Semi-Quantitative Immunohistochemistry, Manual, No Reflex

**Specimen Requirements:** Only formalin-fixed, paraffin-embedded (FFPE) gastric or esophageal adenocarcinoma specimens will be accepted. Fixation in 10% neutral-buffered formalin is preferred. The performance and quality of immunohistochemical stains in 10% neutral-buffered FFPE tissue depends on proper fixation. It is recommended (not required) for surgical specimens to be fixed between 18 and 24 hours and biopsy specimens between 6 and 8 hours. If being ordered for prognostic purposes: Specimen Type: Gastric or esophageal adenocarcinoma Supplies: Pathology Packaging Kit (T554) Preferred: Paraffin-embedded tissue block containing invasive gastric or esophageal adenocarcinoma tissue Additional Information: Paraffin blocks will be returned with final report. Acceptable: Slides Specimen Volume: 5 Collection Instructions: 5 unstained sections, containing gastric or esophageal adenocarcinoma, on charged slides cut at 4 microns less than 1 month ago.

**Transport Temperature:**
Special Ambient
(preferred)
Refrigerated

BRCRC
Hereditary Breast and Colorectal Cancer Panel

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this assay; see Special Instructions. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Refrigerated
(preferred)
Ambient
Frozen

**CPT Code Information:**
- 81162-BRCA-1-BRCA2
- 81321-PTEN
- 81405-TP53
- 81406-CDH1
- 81292-MLH1
- 81295-MSH2
- 81298-MSH6
- 81317-PMS2
- 81319-PMS2 (postmeiotic segregation increased 2 [S. cerevisiae]) (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) gene analysis; duplication/deletion variants; 81403-EPCAM; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis)
Hereditary Breast Cancer 4 Gene Panel

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this assay; see Special Instructions. Submit the required form with the specimen.

Specimen Minimum Volume: 1 mL

Transport Temperature:
- Varies Ambient
- Frozen
- Refrigerated

CPT Code Information: 81406-CDH1; 81321-PTEN; 81405-STK11; 81405-TP53; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

Hereditary Breast Cancer 6 Gene Panel

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this assay; see Special Instructions. Submit the required form with the specimen.

Specimen Minimum Volume: 1 mL

Transport Temperature:
- Varies Refrigerated
- Ambient
- Frozen

CPT Code Information: 81162-BRCA1-BRCA2; 81406-CDH1; 81321-PTEN; 81405-STK11; 81405-TP53; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

Hereditary Colon Cancer CGH Array

Specimen Requirements: Only orderable as a reflex. For further information see: AXINZ /

Transport Temperature:
Varies

CPT Code Information: 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, bacterial artificial chromosome or oligo-based comparative genomic hybridization microarray analysis)

**HCRC**

**Hereditary Colon Cancer Multi-Gene Panel**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient (preferred)
Frozen
Refrigerated

**CPT Code Information:** 81435

**HEMP**

**Hereditary Erythrocytosis Mutations**

**Specimen Requirements:** Container/Tube: EDTA (lavender) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Whole blood Refrigerated 30 days

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

**NGHHA**

**Hereditary Hemolytic Anemia Comprehensive Sequencing,**

**Varies**
Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Peripheral blood (preferred) Container/Tube: Preferred: Lavender top (EDTA) or Yellow top (ACD) Acceptable: Green top (heparin) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Refrigerated < or =30 days Specimen Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: 1. Indicate volume and concentration of the DNA. 2. Label specimen as extracted DNA and source of specimen. Specimen Stability: Frozen/Refrigerated/Ambient < or =30 days

Specimen Minimum Volume: Blood: 1 mL Extracted DNA: 100 mcL at 20 ng/mcL concentration

Transport Temperature:
Varies

CPT Code Information: 81242-FANCC; 81350-UGT1A; 81364-HBB; 81249-G6PD; 81405 x 3-PKLR, RPS19, SLC2A1; 81479-AKI, ALDOA, ANK1, C15orf41, CD59, CDAN1, EPB41, PB42, FANCA, FANCG, GATA1, GCLC, GPI, GSS, CYPC, HBD, HK1, HMOX1, KIF23, KLF1, NT5C3A, PFKM, PIEZO1, RHAG, SEC23B, SLC4A1, SPTA1, SPTB, STOM, TPI1;

HHTGP
Hereditary Hemorrhagic Telangiectasia Gene Panel

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (Preferred)/Refrigerated Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

Specimen Minimum Volume: Whole blood: 1 mL

Transport Temperature:
Varies

CPT Code Information: 81479; 81406 x 2;

HMSNP
Hereditary Motor and Sensory Neuropathy Panel by Next-Generation Sequencing (NGS)

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Varies Ambient (preferred)
**HMNP**
**64361**

**Hereditary Motor Neuropathy Panel by Next-Generation Sequencing (NGS)**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81448

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**HPPAN**
**35640**

**Hereditary Pancreatitis Panel**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81222-CFTR (cystic fibrosis transmembrane conductance regulator) (eg, cystic fibrosis) gene analysis; duplication/deletion variants; 81223-CFTR (cystic fibrosis transmembrane conductance regulator) (eg, cystic fibrosis) gene analysis; full gene sequence; 81404-PRSS1 (protease, serine, 1 [trypsin 1]) (eg, hereditary pancreatitis), full gene sequence ; 81404-SPINK1 (serine peptidase inhibitor, Kazal type 1) (eg, hereditary pancreatitis), full gene sequence; 81405-CTRC gene;
Hereditary Pheochromocytoma/Paraganglioma Multi Gene Panel

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81437

Hereditary Sensory/Autonomic Neuropathy Panel by Next-Generation Sequencing (NGS)

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81448

Hereditary Spastic Paraplegia Neuropathy Panel by Next-Generation Sequencing (NGS)

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Additional Information:** 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81448
Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81448

**LHSVZ 800315**

**Herpes Simplex Virus (HSV) and Varicella-Zoster Virus (VZV), Molecular Detection, PCR**

**Specimen Requirements:** Submit only 1 of the following specimens: Supplies: Culturette (BBL Culture Swab) (T092) M4-RT (T605) Specimen Type: Swab Sources: Genital, dermal, eye, or throat Container/Tube: Multimicrobe media (M4-RT) (T605) Specimen Volume: Swab Collection Instructions: Place swab back into multimicrobe media (M4-RT [T605], M4, or M5). Additional Information: Source information should include the main anatomical source of collection. Supplies: Aliquot Tube, 5 mL (T465) Specimen Type: Fluid Sources: Pleural, peritoneal, ascites, pericardial, amniotic, or ocular Container/Tube: Sterile container Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Specimen Type: Respiratory Sources: Bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate Container/Tube: Sterile container Specimen Volume: 1.5 mL Supplies: M4-RT (T605) Specimen Type: Tissue Sources: Brain, colon, kidney, liver, lung, etc Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT [T605], M4, or M5) Specimen Volume: Entire collection Collection Instructions: Submit only fresh tissue in multimicrobe media (M4-RT) (T605) or a sterile container with 1 to 2 mL sterile saline.

**Specimen Minimum Volume:** Body Fluid or Ocular Fluid: 0.3 mL; Respiratory: 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87529 x2 HSV-1 and HSV-2; 87798-VZV;

**MHSV 87998**

**Herpes Simplex Virus (HSV) Antibody Screen, IgM, by EIA, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86694-HSV EIA; 86694-HSV IFA (if appropriate);
**Herpes Simplex Virus (HSV) Type 1- and Type 2-Specific Antibodies, IgG, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel Acceptable: Red top
- Volume: 0.6 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:**
- 86695-Herpes simplex, type 1
- 86696-Herpes simplex, type 2

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**Herpes Simplex Virus (HSV) Type 1- and Type 2-Specific Antibodies, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel Acceptable: Red top
- Volume: 1 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:**
- 86694-HSV IgM EIA
- 86695-Herpes simplex, type 1
- 86696-Herpes simplex, type 2
- 86694-HSV IFA (if appropriate)

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**Herpes Simplex Virus (HSV), Culture From Neonates**

**Specimen Requirements:**
- Submit only 1 of the following specimens:
  - Specimen Type: Swab
    - Supplies: M4-RT (T605)
    - Sources: Ocular, Rectal, Skin, Dermal, Mouth, Nasopharynx, Conjunctiva, Eye, Anus
    - Container/Tube: Multimicrobe media (M4-RT) (T605) or other viral transport media (M4 or M5)
  - Specimen Volume: Swab Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5)
  - Additional Information: Swab with a wood handle has been shown to be toxic to some viruses and is not acceptable for culture.
  - Specimen Type: Urine
    - Container/Tube: Sterile container
  - Specimen Volume: 1 mL
  - Specimen Type: Stool
    - Container/Tube: Sterile container
    - Specimen Volume: 5 to 10 g

**Specimen Minimum Volume:**
- Stool: 5 g
- Urine: 0.5 mL

**Transport Temperature:**
- Varies Refrigerated 7 days

**CPT Code Information:**
- 87254 x 2

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**Herpes Simplex Virus (HSV), Molecular Detection, PCR**

**Specimen Requirements:**
- Submit only 1 of the following specimens:
  - Specimen Type: Fluid
  - Sources: Pleural, peritoneal, ascites, pericardial, amniotic, or ocular
  - Container/Tube: Sterile container

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 535
Specimen Volume: 0.5 mL
Collection Instructions: Do not centrifuge. Supplies: BBL CultureSwab (T092) M4-RT (T605)
Specimen Type: Swab Sources: Genital, dermal, ocular, nasal, throat, or oral
Container/Tube: Multimicrobe media (M4-RT) (T605) Specimen Volume: Entire collection
Collection Instructions: Place swab back into multimicrobe media (M4-RT [T605], M4, or M5)
Additional Information: Source information should include main anatomical site of collection. Specimen Type:
Respiratory Sources: Bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing,
sputum, or tracheal aspirate
Container/Tube: Sterile container Specimen Volume: 1.5 mL Supplies: M4-RT (T605)
Specimen Type: Tissue Sources: Brain, colon, kidney, liver, lung, etc.
Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT [T605],
M4, or M5) Specimen Volume: Entire collection Collection Instructions: Submit only fresh tissue.
Additional Information: Source information should include main anatomical site of collection.
Specimen Type: Urine (<1 month old infant) Container/Tube: Sterile container Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** Body or Ocular Fluid: 0.3 mL; Respiratory Specimen: 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87529 x 2

**LHSV**

**802067**

**Herpes Simplex Virus (HSV), Molecular Detection, PCR, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:** Whole Blood EDTA Refrigerated (preferred) 7 days

- Frozen 7 days

**CPT Code Information:** 87529 x 2

**HSVC**

**63434**

**Herpes Simplex Virus (HSV), Molecular Detection, PCR, Spinal Fluid**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Aliquot tube (12 x 75-mm
screw cap vial: T465) Specimen Volume: 0.2 mL Collection Instructions: Do not centrifuge. Additional Information: 1. The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by herpes simplex virus DNA is not likely. 2. Specimens that are received with less than the minimum volume required for all testing requested will be canceled.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87529 x 2
**Herpes Simplex Virus 1 and 2, Qualitative PCR, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:** Whole Blood EDTA Refrigerated 7 days

**CPT Code Information:** 87529 x 2

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**Herpes Simplex Virus 1 and 2, Qualitative PCR, Varies**

**Specimen Requirements:** It is recommended that HERPV be collected separately from other PCR tests. Submit only 1 of the following specimens: Specimen Type: Fluid Sources: Pleural, peritoneal, ascites, pericardial, amniotic, or ocular Container/Tube: Sterile container Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Specimen Type: Respiratory Sources: Bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Swab Sources: Genital, cervical, rectal, dermal, ocular, nasal, throat, or oral Supplies: Culturette (BBL Culture Swab) (T092) M4 media, M4-RT (T605) Specimen Volume: Entire collection Collection Instructions: Place swab into multimicrobe media (M4-RT [T605], M4, or M5 media). Specimen Type: Tissue Sources: Brain, colon, kidney, liver, lung, etc. Supplies: M4-RT (T605) or M4 media Container/Tube: Sterile container containing 1-2 mL of sterile saline or multi-microbe medium (M4-RT [T605], M4 media, or M5 media) Specimen Volume: Entire collection Collection Instructions: Submit only fresh tissue. Specimen Type: Urine (<1 month old infant) Container/Tube: Sterile container Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** Fluids, Respiratory, and Urine: 0.3 mL Swabs and Tissue: Entire collection

**Transport Temperature:** Varies Refrigerated 7 days

**CPT Code Information:** 87529 x 2

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**Herpes Simplex Virus, I and II (HSV I and II) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:** TECHONLY Ambient (preferred) Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Herpes Virus 6 DNA, Qualitative Real-Time PCR**

**CPT Code Information:** 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com

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Specimen Requirements: Draw blood in lavender-top (EDTA) tube(s) or yellow-top (ACD) tube(s) and send 1 mL of whole blood refrigerated. (DO NOT FREEZE)

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Whole blood Refrigerated (preferred) 7 days
Ambient 48 hours

CPT Code Information: 87532

Herpes Virus-6 DNA, Quantitative Real-Time PCR

Specimen Requirements: Submit only one of the following: Whole Blood: Collect 1 mL (lavender-top) EDTA or (yellow-top) ACD whole blood. Ship refrigerate. Serum: Draw blood in a plain, red-top tube(s). (Serum gel tube is acceptable.) Separate immediately and submit 1 mL serum refrigerate in a plastic vial. Plasma: Draw blood in a (lavender-top) EDTA or (yellow-top) ACD tube(s). (Plasma gel tube is acceptable.) Separate immediately and submit 1 mL plasma refrigerate in a plastic vial. CSF: Collect 1 mL of spinal fluid (CSF) is sterile leak proof container. Ship refrigerate in a plastic vial. Bronchoalveolar Lavage: Collect 1 mL in sterile leak proof container. Ship refrigerate in a plastic vial. Bone Marrow: Collect 1 mL bone marrow in a (lavender-top) EDTA or (yellow-top) ACD tube. Ship refrigerate.

Specimen Minimum Volume: 0.3 mL

Transport Temperature: Varies Refrigerated 7 days

CPT Code Information: 87533

Herpesvirus 7 (HHV-7) DNA, Quantitative Real-Time PCR

Specimen Requirements: Submit only 1 of the following specimens: Whole Blood Draw blood in a lavender-top (EDTA) tube(s) or yellow-top (ACD) tube(s) and submit 1 mL whole blood. Ship refrigerated (DO NOT FREEZE). Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is acceptable.) Allow blood to clot at room temperature and separate serum from cells within 2 hours of collection. Submit 1 mL serum in a plastic vial. Ship refrigerated. Plasma Draw blood in an EDTA or ACD tube(s). (Plasma gel tube is acceptable.) Allow blood to clot at room temperature and separate plasma from cells within 2 hours of collection. Submit 1 mL plasma in a plastic vial. Ship refrigerated.

Specimen Minimum Volume: 0.3 mL

Transport Temperature: Varies Refrigerated (preferred) 7 days
Frozen 30 days
Ambient 48 hours

CPT Code Information: 87799

Herpesvirus 7 IgG and IgM Antibody Panel, IFA

CPT Code Information: 87487
Specimen Requirements: Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL serum in a screw-capped vial, shipped refrigerate.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 30 days
Ambient 7 days

CPT Code Information: 86790 x 2

Herpesvirus 8 (HHV-8) DNA, Quantitative Real-Time PCR

Specimen Requirements: Submit only 1 of the following specimens: Whole Blood Draw blood in a lavender (EDTA) or yellow (ACD) tube(s) and submit 0.7 mL whole blood refrigerated (DO NOT FREEZE) Serum Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.7 mL serum refrigerated in a plastic vial. Plasma Draw blood in an EDTA or ACD tube(s), plasma gel tube(s) is acceptable. Spin down and send 0.7 mL plasma refrigerated in a plastic vial.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Ambient 48 hours

CPT Code Information: 87799

Herring, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Hexagonal Phospholipid Neutralization

Specimen Requirements: Draw blood in a light blue-top (Sodium citrate) tube(s). Spin down and send 1 mL citrated plasma frozen in a plastic vial. Note: Separate specimens must be submitted when multiple tests are ordered.

Specimen Minimum Volume: 0.5 mL
Transport Temperature: Plasma Na Cit Frozen

CPT Code Information: 85598

**HEXAI**

**Hexahydrophtalic Anhydride, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**MUGS**

**Hexosaminidase A (MUGS), Serum**

**Specimen Requirements:** Patient Preparation: Patient should be fasting for 4 hours. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Frozen (preferred) 365 days
- Refrigerated 5 days

CPT Code Information: 83080

**NAGW**

**Hexosaminidase A and Total Hexosaminidase, Leukocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Whole Blood ACD Refrigerated (preferred) 4 days
- Ambient 4 days

CPT Code Information: 83080 x 2

**NAGS**

**Hexosaminidase A and Total Hexosaminidase, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen...
Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 7 days

**CPT Code Information:** 83080 x 2

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**NAGR 82943**

**Hexosaminidase A and Total, Leukocytes/Molecular Reflex**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Whole Blood ACD Refrigerated (preferred) 4 days
- Ambient 4 days

**CPT Code Information:** Hexosaminidase A and Total, Leukocytes/Molecular Reflex 83080 x 2 Tay-Sachs Disease, Mutation Analysis, HEXA (if appropriate); 81255;

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**FSHAG 57950**

**Hickory Shagbark (Carya ovata) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**HMGA 70460**

**High Mobility Group A2 (HMGA2) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

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Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Hippuric Acid, Urine**

**Specimen Requirements:** Send 3 mL from a random urine collection. Send specimen refrigerated in a plastic urine container.

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Urine: Refrigerated (preferred) 30 days
  - Frozen: 30 days
  - Ambient: 5 days

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**Histamine Plasma**

**Specimen Requirements:** Draw 3 mL blood in a lavender-top (EDTA) tube(s). Cool immediately on ice. Centrifuge at 1500 rpm for 10 minutes at 4°C. The centrifugation should be performed within 20 minutes of collection. Carefully remove 1 mL of EDTA plasma from the upper part of the tube. Freeze and send frozen in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Plasma EDTA: Frozen 365 days

**CPT Code Information:** 82570; 83921;

**Histamine, 24-Hour Urine**

**Specimen Requirements:** Patient Preparation: Avoid taking allergy causing drugs, antihistamines, oral corticosteroids, and substances which block H2 receptors for at least 24 hours prior to specimen collection. Avoid direct sunlight during the collection. Specimen Type: Urine Submission

- Container/Tube: Plastic, 10-mL tube (T068)
- Specimen Volume: 4 mL

Collection Instructions: Submit only 1 of the following: -Collect 24-hour urine with 10 mL 6N HCL (Preferred) -Collect 24-hour urine without preservative. 1. Collect urine for 24 hours, either with 10 mL 6N HCL preservative (preferred), or with no preservative. 2. Avoid direct sunlight during the 24-hour collection. 3. Send specimen refrigerated in the plastic, 10-mL urine tube (T068)

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
  - Frozen: 14 days
  - Ambient: 48 hours

**CPT Code Information:** 83088
Histamine, Whole Blood

Specimen Requirements: Collect blood in a green top tube (sodium or lithium heparin). Submit 1 mL well-mixed blood in a plastic screw cap tube frozen. NOTE: 1. Critical frozen. Separate samples must be submitted when multiple tests are ordered. 2. Unacceptable: non-frozen samples

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
- WB Heparin Frozen (preferred) 180 days
- Refrigerated 6 hours
- Ambient 2 hours

CPT Code Information: 83088

Histone Autoantibodies, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.35 mL

Transport Temperature:
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 83516

Histone H3 K27M mutant (H3 K27M), Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Histone H3 Trimethyl K27 (H3 K27me3) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope Preferred: 2 Unstained positively charged
charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** NA

**Transport Temperature:**

TECHONLY Ambient
(preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**SHSTO 26692**

**Histoplasma Antibody, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** See Specimen Required.

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

Frozen 14 days

**CPT Code Information:** 86698 x 3

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**CHIST 8230**

**Histoplasma Antibody, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

CSF Refrigerated (preferred) 14 days

Frozen 14 days

**CPT Code Information:** 86698 x 3

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**UHIST 63014**

**Histoplasma Antigen, Urine**

**Specimen Requirements:** Supplies: Aliquot tube, 5-mL (T465) Container/Tube: Plastic, 5-mL aliquot tube (T465) Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. 3. Excessively bloody or very turbid specimens containing protein, cells, or particulates will be cancelled as they can inhibit the function of the test. 4. Centrifuging to remove particulates is not approved. 5. Specimens with any dyes or unnatural color are not acceptable and will be cancelled.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**

Urine Refrigerated (preferred) 14 days

Frozen 14 days
Histoplasma capsulatum/Blastomyces species Molecular Detection, PCR, Blood

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Histoplasma or Blastomyces species DNA is not likely. Container/Tube: Lavender top (EDTA) Specimen Volume: 5 mL Pediatric: 3 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:** Whole blood Refrigerated 7 days

Histoplasma capsulatum/Blastomyces species Molecular Detection, PCR, Varies

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Histoplasma or Blastomyces species DNA is not likely. Submit only 1 of the following specimens: Specimen Type: Body fluid Sources: Body, CSF, bone marrow Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Respiratory Sources: BAL, bronchial washing, sputum Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Tissue or bone Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: Collect a fresh tissue or bone specimen. Acceptable: Specimen Type: NALC/NaOH-digested respiratory specimens Sources: Lavage fluid, bronchial washing, gastric washing, respiratory fluid, sputum, or tracheal secretion Container/Tube: Sterile container Specimen Volume: 2 mL Collection Instructions: 1. Submit digested specimen treated with NALC/NaOH. 2. Clearly indicate on container and order form that specimen is a digested specimen.

**Specimen Minimum Volume:** Body Fluid or Respiratory Specimen: 0.5 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

Histoplasma/Blastomyces Panel, Spinal Fluid

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 87385-X 2 (if appropriate)

CPT Code Information: 87798 x 2

CPT Code Information: 87798 x 2
CPT Code Information: 86698 x 3-Histoplasma Antibody, CSF; 86612-Blastomyces Antibody, CSF;

HIVSP 48393

HIV Antigen and Antibody Prenatal Routine Screen, Plasma

Specimen Requirements: Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 6 mL Collection Instructions: Spin down and remove plasma from cells within 6 hours of draw.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Plasma Refrigerated (preferred) 6 days

CPT Code Information: 87389; G0475;

HV1CD 83628

HIV-1 and HIV-2 Antibodies for Cadaveric or Hemolyzed Specimens, Serum

Specimen Requirements: Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: Spin down and remove serum from clot within 24 hours.

Specimen Minimum Volume: 0.2 mL

Transport Temperature:
Serum Frozen (preferred) 30 days

Ambient 7 days
Refrigerated 7 days

CPT Code Information: 86703; 86701; 86702;

HVDSP 601759

HIV-1 and HIV-2 Antibody Confirmation and Differentiation Prenatal, Plasma

Specimen Requirements: Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 1 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off plasma into aliquot tube.

Specimen Minimum Volume: 0.8 mL

Transport Temperature:
Plasma Frozen (preferred) 30 days

Refrigerated 6 days

CPT Code Information: 86701-HIV-1 Antibody; 86702-HIV-2 Antibody;
**HVDIP 601758**

**HIV-1 and HIV-2 Antibody Confirmation and Differentiation, Plasma**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 1 mL

Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off plasma into aliquot tube.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Plasma Frozen (preferred) 30 days
- Refrigerated 6 days

**CPT Code Information:** 86701-HIV-1 Antibody; 86702-HIV-2 Antibody;

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**HIVDI 62421**

**HIV-1 and HIV-2 Antibody Confirmation and Differentiation, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and remove serum from clot within 24 hours. Additional Information: If specimens are autopsy or cadaver blood sources, the proper FDA-licensed assay is HV1CD / HIV-1 and HIV-2 Antibodies for Cadaveric or Hemolyzed Specimens, Serum.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 14 days
- Ambient 48 hours

**CPT Code Information:** 86701-HIV-1 Antibody; 86702-HIV-2 Antibody;

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**HV1CM 60357**

**HIV-1 and HIV-2 Antibody Screen for Hemolyzed Specimens, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: Spin down and remove serum from clot within 24 hours.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Ambient 7 days
- Refrigerated 7 days

**CPT Code Information:** 86703; G0432; 86701 (if appropriate); 86702 (if appropriate);
HIV-1 and HIV-2 Antigen and Antibody Diagnostic Evaluation, Plasma

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 6 mL Collection Instructions: Spin down and remove plasma from cells within 6 hours of draw.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Plasma Refrigerated (preferred) 6 days
- Frozen 30 days

**CPT Code Information:** 87389

HIV-1 and HIV-2 Antigen and Antibody Routine Screen, Plasma

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 6 mL Collection Instructions: Centrifuge blood collection tube and pour off plasma into aliquot tube per collection tube manufacturer's instructions.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Plasma Refrigerated (preferred) 6 days
- Frozen 30 days

**CPT Code Information:** 87389; G0475;

HIV-1 DNA and RNA Qualitative Detection by PCR, Plasma

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down and remove plasma from cells within 6 hours of draw. Additional Information: This test can be used for detection and diagnosis of HIV-1 infections, including in children younger than 18 months of age when serologic tests are not useful (due to presence of maternal HIV antibodies).

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 35 days
- Refrigerated 5 days

**CPT Code Information:** 87535

HIV-1 Genotypic Integrase Inhibitor Drug Resistance, Plasma

**Specimen Requirements:** Specimens submitted for HIV-1 genotyping should contain > or =500 copies/mL of HIV-1 RNA. Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 2.2 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's
instructions. 2. Pour off plasma into aliquot tube. 3. If shipment will be delayed for more than 5 days, freeze specimen at -70°C (up to 35 days) until shipment on dry ice.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Plasma EDTA, Frozen (preferred): 35 days
- Refrigerated: 5 days

**CPT Code Information:** 87906

### HIVPR

**HIV-1 Genotypic Protease and Reverse Transcriptase Inhibitor Drug Resistance, Plasma**

**Specimen Requirements:**
- Collection Container/Tube: Lavender top (EDTA)
- Submission Container/Tube: Plastic vial
- Specimen Volume: 2.2 mL

Collection Instructions:
1. Spin down and remove plasma from cells within 6 hours of draw.
2. Freeze plasma specimen immediately, and ship specimen frozen on dry ice.
3. If shipment will be delayed for >24 hours, freeze plasma specimen at -70°C (up to 35 days) until shipment on dry ice.

Additional Information:
1. This test is intended to be used to monitor known HIV-positive infections. It is not intended for primary detection of HIV infections.
2. Specimens submitted for HIV-1 genotyping should contain > or =500 copies/mL of HIV-1 RNA.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Plasma EDTA, Frozen (preferred): 35 days
- Refrigerated: 24 hours

**CPT Code Information:** 87901

### HIVQN

**HIV-1 RNA Detection and Quantification, Plasma**

**Specimen Requirements:**
- Supplies: Aliquot Tube, 5 mL (T465)
- Collection Container/Tube: Lavender-top (EDTA plasma)
- Submission Container/Tube: Polypropylene vial (T465)
- Specimen Volume: 1.5 mL

Collection Instructions:
1. Centrifuge blood collection tube and pour off plasma into aliquot tube per collection tube manufacturer’s instructions.
2. Pour off plasma into aliquot tube.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Plasma EDTA, Frozen (preferred): 84 days
- Refrigerated: 6 days

**CPT Code Information:** 87536

### HVIDQ

**HIV-1 RNA Detection and Quantification, Plasma**

**Specimen Requirements:**
- Collection Container/Tube: Lavender top (EDTA)
- Submission Container/Tube: Plastic vial
- Specimen Volume: 2.5 mL

Collection Instructions:
1. Spin down and remove plasma from cells within 6 hours of draw.
2. Freeze plasma specimen immediately.

Additional
Information: This test can be used for detection and diagnosis of HIV-1 infections, including in children less than 18 months of age when serologic tests are not useful (due to presence of maternal HIV antibodies).

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 35 days
- Refrigerated 5 days

**CPT Code Information:** 87536

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**HIV-1 RNA Detection and Quantification, Prenatal, Plasma**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Lavender-top (EDTA) Submission Container/Tube: Polypropylene vial (T465) Specimen Volume: 1.5 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer’s instructions. 2. Pour off plasma into aliquot tube.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 84 days
- Refrigerated 6 days

**CPT Code Information:** 87536

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**HIV-1 RNA Quantification with Reflex to HIV-1 Genotypic Drug Resistance to Protease and Reverse Transcriptase Inhibitors, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 3.6 mL Collection Instructions: 1. Centrifuge blood collection tube and pour off plasma into aliquot tube per collection tube manufacturer’s instructions, eg, separate and aliquot plasma within 2 hours of blood collection for BD Vacutainer K2EDTA tube. 2. Freeze aliquoted plasma immediately for transport.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 35 days
- Refrigerated 5 days

**CPT Code Information:** 87536-HIV-1 Quantification; 87901-HIV-1 genotypic drug resistance (if appropriate);

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**HIV-1 RNA Quantification with Reflex to HIV-1 Genotypic Drug Resistance, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 3 mL Collection Instructions: 1. Spin down and remove
plasma from cells within 6 hours of draw. 2. Freeze plasma specimen immediately.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma EDTA Frozen (preferred) 35 days
Refrigerated 5 days

**CPT Code Information:** 87536-HIV-1, quantification; 87901-HIV-1 genotypic drug resistance (if appropriate);

### HIV2L 61785

**HIV-2 Antibody Confirmation, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Frozen (preferred) 30 days
Refrigerated 14 days
Ambient 48 hours

**CPT Code Information:** 86689

### FHV2Q 91490

**HIV-2 DNA/RNA Qualitative Real-Time PCR**

**Specimen Requirements:** Collect 1 mL (lavender-top) EDTA or (yellow-top) ACD whole blood. Ship refrigerate.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Whole blood Refrigerated (preferred) 6 days
Ambient 6 days

**CPT Code Information:** 87538

### FHLAA 91498

**HLA A High Resolution**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube. Send 14 mL of EDTA whole blood at ambient temperature.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Whole Blood EDTA Ambient 14 days

**CPT Code Information:** 81380
**HLA B High Resolution**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube. Send 14 mL of EDTA whole blood at ambient temperature.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Whole Blood EDTA Ambient 14 days

**CPT Code Information:** 81380

**HLA C High Resolution**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s). Send 14 mL EDTA whole blood ambient.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Whole Blood EDTA Ambient 14 days

**CPT Code Information:** 81380

**HLA Class I Molecular Typing Disease Association**

**Specimen Requirements:** Container/Tube: Yellow top (ACD solution B) Specimen Volume: 6 mL

Collection Instructions: Do not transfer blood to other containers. Additional Information: Specimen acceptability is based on extracted DNA concentration and not sample age.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole Blood ACD-B Refrigerated
(preferred)

Ambient

**CPT Code Information:** 81372-HLA class I typing, low resolution (eg, antigen equivalents); complete (ie, HLA-A, -B and -C)

**HLA Class II Molecular Typing Disease Association**

**Specimen Requirements:** Container/Tube: Yellow top (ACD solution B) Specimen Volume: 6 mL

Collection Instructions: Do not transfer blood to other containers. Additional Information: Specimen acceptability is based on extracted DNA concentration and not sample age.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole Blood ACD-B Refrigerated
(preferred)

Ambient
HLA-B 5701 Genotype, Abacavir Hypersensitivity, Blood

Specimen Requirements: Multiple whole blood EDTA genotype tests can be performed on a single specimen. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Whole Blood EDTA  Ambient (preferred)
Refrigerated

CPT Code Information: 81381

HLA-B 5701 Genotype, Abacavir Hypersensitivity, Saliva

Specimen Requirements: Multiple saliva genotype tests can be performed on a single specimen. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Specimen Type: Saliva Supplies: DNA Saliva Collection Kit (T651: fees apply) Container/Tube: Oragene DNA Self-Collection Kit (T651: fees apply) Specimen Volume: Full tube Collection Instructions: 1. Fill tube to line. 2. Send specimen in original container per kit instructions.

Specimen Minimum Volume: See Specimen Required.

Transport Temperature: Saliva Ambient

CPT Code Information: 81381

HLA-B*5801 Genotype, Allopurinol Hypersensitivity, Blood

Specimen Requirements: Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

Specimen Minimum Volume: 0.35 mL

Transport Temperature:
Whole Blood EDTA  Ambient (preferred)
Refrigerated

CPT Code Information: 81381


**HLA-B*5801 Genotype, Allopurinol Hypersensitivity, Saliva**

**Specimen Requirements:** Multiple saliva genotype tests can be performed on a single specimen after a single extraction. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Oragene DNA Self-Collection Kit (T651; fees apply) Specimen Volume: Full tube Collection Instructions: 1. Fill to tube line. 2. Send specimen in original container per kit instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Saliva Ambient

**CPT Code Information:** 81381

**HLA-B27, Blood**

**Specimen Requirements:** Specimen must arrive within 96 hours of draw. Container/Tube: Lavender top (EDTA) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Whole Blood EDTA Ambient 4 days

**CPT Code Information:** 86812

**HMB45 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**HMBS Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours
Specimen Type: Skin biopsy
Container/Tube: Sterile container with any standard cell culture media (e.g., minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle’s minimum essential medium with 1% penicillin and streptomycin [T115]).

Specimen Volume: 4-mm punch
Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable
Specimen Type: Blood spot
Supplies: Card - Blood Spot Collection (Filter Paper) (T493)
Specimen Volume: 2 to 5

Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry.

Specimen Stability Information: Ambient (preferred)/Refrigerated

Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume:
Blood: 1 mL
Blood Spots: 3

Transport Temperature:
Varies

CPT Code Information: 81406-Unlisted molecular pathology procedure; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

Homocysteine (Total), Methylmalonic Acid, and Methylcitric Acid, Blood Spots

Specimen Requirements: Supplies: Card-Blood Spot Collection (Filter Paper) (T493)
Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) from heel or finger stick
Acceptable: Local newborn screening card, Whatman Protein Saver 903 paper
Specimen Volume: 2 blood spots
Collection Instructions: 1. Do not use device or capillary tube containing EDTA or ACD to collect specimen. Sodium heparin is acceptable, but must be spotted on card the same day as collected. 2. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle). 3. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours. 4. Do not expose specimen to heat or direct sunlight. 5. Do not stack wet specimens. 6. Keep specimen dry.

Specimen Stability Information: Ambient (preferred)/Refrigerated

Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: Blood Spots: 1

Transport Temperature:
Whole blood Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 83090-Homocysteine; 83918-Methylmalonic acid and methylcitric acid;

Homocysteine, Total, Plasma

Specimen Requirements: Patient Preparation: Fasting (12 hours preferred but not required)
Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Plasma Preparation Tube (PPT), citrate,
sodium fluoride, heparin Specimen Volume: 0.4 mL Collection Instructions: 1. Immediately place specimen on wet ice. 2. Spin down and separate plasma from cells within 4 hours of draw. A refrigerated centrifuge is not required if 4-hour time restraint is met. 3. Alternatively, if blood is not immediately placed on ice, plasma must be removed from cells within 1 hour of draw. A refrigerated centrifuge is not required if 1-hour time restraint is met.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Plasma EDTA Refrigerated
(preferred)
Frozen

**CPT Code Information:** 83090

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**HCYSS**

**Homocysteine, Total, Serum**

**Specimen Requirements:** Patient Preparation: Fasting (12 hours, preferred but not required) Container/Tube: Red top or serum gel tube Specimen Volume: 0.4 mL Collection Instructions: 1. Immediately place specimen on wet ice. 2. Spin down and separate serum from cells within 4 hours of draw. A refrigerated centrifuge is not required if 1-hour time restraint is met. 3. Alternatively, if blood is not immediately placed on ice, serum must be removed from cells within 1 hour of draw. A refrigerated centrifuge is not required if 1-hour time restraint is met.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen

**CPT Code Information:** 83090

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**HCYSU**

**Homocysteine, Total, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 4 mL Collection Instructions: 1. Void and discard the first-morning urine specimen following an overnight fast. 2. Continue fasting, and collect the next random urine specimen.

**Specimen Minimum Volume:** 2.25 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 7 days
Frozen

**CPT Code Information:** 83090

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**HVA**

**Homovanillic Acid (HVA), 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: Administration of L-dopa may falsely increase homovanillic acid results; it should be discontinued 24 hours prior to and during collection of specimen. Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a 24-hour urine specimen. 2. Add 25 mL of 50% acetic acid as preservative at start of collection.
If specimen is refrigerated during collection, preservative may be added up to 12 hours after collection. Use 15 mL of 50% acetic acid for children less than 5 years old. This preservative is intended to achieve a pH of between approximately 1 and 5. If necessary, adjust urine pH to 1 to 5 with 50% acetic or HCl acid. Additional Information: 1. The sensitivity of this test is greater on a 24-hour specimen than on a random specimen. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections. 3. Bactrim may interfere with detection of the analyte. All patients taking Bactrim should be identified to the laboratory when this test is ordered.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 180 days

**CPT Code Information:** 83150

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**HVAR**

**Homovanillic Acid (HVA), Random, Urine**

**Specimen Requirements:**
- **Supplies:** Urine Tubes, 10 mL (T068)
- **Collection Container/Tube:** Clean, plastic urine collection container
- **Submission Container/Tube:** Plastic, 10-mL urine tube
- **Specimen Volume:** 5 mL
- **Collection Instructions:** 1. Collect a random urine specimen. 2. Adjust the urine pH to a level between 1 and 5 by adding 50% acetic acid dropwise and checking the pH.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 180 days

**CPT Code Information:** 83150

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**HUNY**

**Honey, IgE**

**Specimen Requirements:**
- **Container/Tube:** Preferred: Red top
- **Acceptable:** Serum gel
- **Specimen Volume:** 0.5 mL for each 5 allergens requested
- **Additional Information:** Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**HBV**

**Honeybee Venom, IgE**

**Specimen Requirements:**
- **Container/Tube:** Preferred: Red top
- **Acceptable:** Serum gel
- **Specimen Volume:** 0.5 mL for each 5 allergens requested
- **Additional Information:** Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### HOP

**Hop Fruit, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### HBEA

**Hornbeam, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### HORS

**Horse Dander, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003
HSPR 82134
Horse Serum Proteins, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

HFSF 82608
Horsefly/Stablefly, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

FHORS 57934
Horseradish (Armoracia rusticana/A.lapathifolia)IgE

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

DF 82905
House Dust Mites/Dermatophagoides farinae, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**House Dust Mites/Dermatophagoides pteronyssinus, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**House Dust Panel**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: 0.05 mL x number of allergens + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**House Dust/Greer Lab, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
CPT Code Information: 86003

HDHS
House Dust/H-S Lab, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

HOXB
HOXB13 Mutation Analysis (G84E)
Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.
Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen
Specimen Minimum Volume: 1 mL
Transport Temperature:
Varies Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 81479-HOXB13 gene, Unlisted molecular pathology procedure

FHTL
HTLV I/II DNA, Qualitative Real-Time PCR
Specimen Requirements: Collection Container/Tube: Preferred: Lavender-top (EDTA) Acceptable: Yellow top (ACD, solution A) Specimen Volume: 1 mL Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s), or yellow-top (ACD solution A) tube(s). Send 1 mL EDTA or ACD whole blood ambient.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Whole blood Ambient (preferred) 7 days
Refrigerated 14 days
FHAM 57856

**Human Anti-mouse Antibody (HAMA)**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Frozen 90 days

CPT Code Information: 83520

HCG 70455

**Human Chorionic Gonadotropin (hCG) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

THCG 80678

**Human Chorionic Gonadotropin (hCG), Quantitative, Pregnancy, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 72 hours
Frozen 365 days

CPT Code Information: 84702

HE4 62137

**Human Epididymis Protein 4, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take...
multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.50 mL

**Transport Temperature:**
Serum Frozen (preferred) 84 days
Refrigerated 48 hours

**CPT Code Information:** 86305

### HRPV8

**Human Herpes Virus, Type 8 (HHV-8) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

### FH6AB

**Human Herpesvirus 6 (HHV-6A and HHV-6B) by Quantitative PCR**

**Specimen Requirements:** Submit only one of the following: CSF: Collect 1 mL spinal fluid (CSF) in sterile plastic container and ship frozen. Serum: Draw blood in serum gel tube(s). Spin down and send 1 mL of serum frozen in a plastic vial. Plasma: Draw blood in lavender (EDTA), pink (K2EDTA) tube(s), or (yellow ACD) tube(s). Spin down and send 1 mL of plasma frozen in a plastic vial. Note: 1. Source required. 2. Separate orders required for each specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Frozen (preferred) 90 days
Refrigerated 5 days

**CPT Code Information:** 87533

### HHV6

**Human Herpesvirus-6, Molecular Detection, PCR, Plasma**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Preferred: Aliquot Tube, 5 mL (T465) Acceptable: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: Spin down promptly.

**Specimen Minimum Volume:** 0.3 mL
Transport Temperature:
Plasma EDTA Refrigerated (preferred) 7 days
Frozen 7 days

CPT Code Information: 87532

**HHV6V**

89888

**Human Herpesvirus-6, Molecular Detection, PCR, Spinal Fluid**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Preferred: Aliquot Tube, 5 mL (T465) Acceptable: Sterile vial Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
CSF Refrigerated (preferred) 7 days
Frozen 7 days

CPT Code Information: 87532

**FHMPV**

91433

**Human Metapneumovirus (hMPV) RNA**

**Specimen Requirements:** Submit only one of the following: Nasopharyngeal swab: 3 mL M4 media, V-C-M medium (green-cap) or equivalent UTM shipped refrigerate. Nasopharyngeal aspirate: 0.7 mL shipped refrigerate Bronchoalveolar lavage (BAL): 0.7 mL shipped refrigerate REQUIRED: Source Specimen Minimum Volume: Nasopharyngeal swab: 2 mL Nasopharyngeal aspirate or Bronchoalveolar lavage (BAL): 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days
Frozen 30 days

CPT Code Information: 87798

**HPVP**

62995

**Human Papillomavirus (HPV) DNA Detection with Genotyping, High Risk Types by PCR with Papanicolaou Smear Reflex, ThinPrep**

**Specimen Requirements:** An acceptable cytology request form must accompany specimen containers and include the following: Patient's name, medical record number, date of birth, sex, source (exact location and procedure used), date specimen was taken, name of ordering physician and pager number. Submit any pertinent history, clinical information, or date of last menstrual period (LMP). Original ThinPrep/PreservCyt collection vial is required for testing. Only 1 aliquot may be removed from PreservCyt sample vial prior to performing the ThinPrep Pap Test, regardless of the volume of the aliquot (maximum aliquot volume=3 mL). For optimal interpretation, Pap smears should be collected near the middle of the menstrual cycle. Avoid douching, lubricant use, and sexual intercourse for 24 hours prior to specimen collection. Specimen source is required. Submit only 1 of the following specimens: Broom Collection Device: (T056) Specimen Type: Cervical (endocervical or ectocervical) Container/Tube: ThinPrep/PreservCyt vial Specimen Volume: 20 mL of solution in ThinPrep/PreservCyt vial Collection
Instructions: 1. Obtain adequate sampling from cervix using a broom-like collection device. If desired, use lukewarm water to warm and lubricate the speculum. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times. 2. Rinse the broom as quickly as possible into the PreservCyt solution vial by pushing broom into bottom of vial 10 times, forcing the bristles apart. 3. As a final step, swirl broom vigorously to further release material. Discard the collection device. 4. Tighten cap on vial so that the torque line on the cap passes the torque line on the vial. 5. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth). 6. Bag ThinPrep specimens individually as they have a tendency to leak during transport. 7. Place labels on the vial and on the bag. Endocervical Brush/Spatula Collection Device: (T434) Specimen Type: Ectocervix and endocervix Container/Tube: ThinPrep/PreservCyt vial Specimen Volume: 20 mL of solution in ThinPrep/PreservCyt vial Collection Instructions: 1. Obtain an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm water to warm and lubricate the speculum. Select contoured end of plastic spatula and rotate it 360 degrees around the entire exocervix while maintaining tight contact with exocervical surface. 2. Rinse spatula as quickly as possible into the PreservCyt solution vial by swirling spatula vigorously in vial 10 times. Discard the spatula. 3. Next, obtain an adequate specimen from endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate 1/4 or 1/2 turn in one direction. Do not over-rotate. 4. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. 5. Swirl brush vigorously as final step to further release material. Discard the brush. 6. Tighten the cap so that the torque line on the cap passes the torque line on the vial. 7. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth). 8. Bag ThinPrep specimens individually as they have a tendency to leak during transport. 9. Place labels on the vial and on the bag.

Specimen Minimum Volume: 17 mL

Transport Temperature:
- Varies Ambient (preferred) 42 days
- Refrigerated 42 days

CPT Code Information: 87624; G0476 (if appropriate); 88142 (if appropriate);

SHPV 62599

Human Papillomavirus (HPV) DNA Detection with Genotyping, High-Risk Types by PCR, SurePath

Specimen Requirements: Supplies: HPV SurePath Transport Tube 13 mL (T710) Specimen Type: Cervical (endocervical or ectocervical) or vaginal Specimen Volume: 1.5 mL Collection Instructions: 1. Aliquot a minimum of 1 mL SurePath specimen into SurePath HPV aliquot tube. 2. Bag specimens individually as they have a tendency to leak during transport. 3. Place labels on the vial and on the bag.

Specimen Minimum Volume: 1 mL

Transport Temperature:
- Varies Ambient (preferred) 14 days
- Refrigerated 14 days

CPT Code Information: 87624; G0476 (if appropriate);

HPV 62598

Human Papillomavirus (HPV) DNA Detection with Genotyping, High-Risk Types by PCR, ThinPrep

Specimen Minimum Volume: 1 mL

Transport Temperature:
- Varies Ambient (preferred) 14 days
- Refrigerated 14 days

CPT Code Information: 87624; G0476 (if appropriate);
Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Cervical (endocervical or ectocervical) Container/Tube: ThinPrep/PreservCyt solution vial Specimen Volume: 3 mL of solution in ThinPrep/PreservCyt vial Collection Instructions: 1. Bag ThinPrep specimens individually as they have a tendency to leak during transport. 2. Place labels on the vial and on the bag. Specimen Type: Vaginal Container/Tube: ThinPrep/PreservCyt solution vial Specimen Volume: 3 mL of solution in ThinPrep/PreservCyt vial Collection Instructions: 1. Bag ThinPrep specimens individually as they have a tendency to leak during transport. 2. Place labels on the vial and on the bag. Additional Information: This assay is validated but not FDA-approved for vaginal source specimens.

Specimen Minimum Volume: 1 mL

Transport Temperature:
- Ambient (preferred) 42 days
- Refrigerated 42 days

CPT Code Information: 87624; G0476 (if appropriate);

Human Papillomavirus (HPV) High-Risk E6/E7, RNA In Situ Hybridization

Specimen Requirements: Supplies: Pathology Packaging Kit (T554) Specimen Type: Formalin-fixed, paraffin-embedded tissue block Specimen Volume: Entire block Specimen Type: Slides Slides: 5 unstained glass, positively charged slides with 5 (+ or - 1)-microns formalin-fixed, paraffin-embedded tissue

Transport Temperature:
- Ambient (preferred)
- Refrigerated

CPT Code Information: 88365-Primary; 88364-If additional ISH;

Human Papillomavirus (HPV) High/Low Risk, DNA In Situ Hybridization

Specimen Requirements: Supplies: Pathology Packaging Kit (T554) Specimen Type: Formalin-fixed, paraffin-embedded tissue block Specimen Volume: Entire block Specimen Type: Slides Slides: 6 unstained glass, positively charged slides with 5 (+ or - 1)-microns formalin-fixed, paraffin-embedded tissue

Transport Temperature:
- Ambient (preferred)
- Refrigerated

CPT Code Information: 88365-Primary; 88364-If additional ISH;

Human Papillomavirus (HPV) Low Risk, DNA In Situ Hybridization
**Specimen Requirements:** Supplies: Pathology Packaging Kit (T554)  
Specimen Type: Formalin-fixed, paraffin-embedded tissue block  
Specimen Volume: Entire block  
Slides: 5 unstained glass, positively charged slides with 5 (+ or - 1)-microns formalin-fixed, paraffin-embedded tissue

**Transport Temperature:**  
Special Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88365-Primary; 88364-If additional ISH;

**HPVHR 70463**  
**Human Papillomavirus (HPV), High-Risk, DNA In Situ Hybridization**

**Specimen Requirements:** Supplies: Pathology Packaging Kit (T554)  
Specimen Type: Formalin-fixed, paraffin-embedded tissue block  
Specimen Volume: Entire block  
Slides: 5 unstained glass, positively charged slides with 5 (+ or - 1)-microns formalin-fixed, paraffin-embedded tissue

**Transport Temperature:**  
Special Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88365-Primary; 88364-If additional ISH;

**FHPL 91178**  
**Human Placental Lactogen (HPL)**

**Specimen Requirements:** Draw blood in a red top tube(s). Separate and send 1 mL of serum frozen in plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**  
Serum Red  
Frozen 90 days

**CPT Code Information:** 83632

**HPL 70462**  
**Human Placental Lactogen (HPL) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)  
Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693)  
Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**  
TECHONLY Ambient  
(preferred)  
Refrigerated
**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**HTLV**

### Human T-Cell Lymphotropic Virus Types I and II (HTLV-I/-II) Antibody Confirmation, Serum

**Specimen Requirements:**
- Collection Container/Tube: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL
- Specimen Minimum Volume: 0.2 mL
- Transport Temperature: Serum SST Frozen (preferred)
  - Refrigerated 7 days

**CPT Code Information:** 86689

### HTLV

### Human T-Cell Lymphotropic Virus Types I and II (HTLV-I/-II) Antibody Screen with Confirmation, Serum

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 1 mL
- Specimen Minimum Volume: 0.6 mL
- Transport Temperature:
  - Serum Frozen (preferred) 28 days
  - Refrigerated 7 days

**CPT Code Information:** 86790-HTLV-I/-II; 86689-Confirmation (if appropriate);

### MPS2Z

### Hunter Syndrome, Full Gene Analysis

**Specimen Requirements:**
- Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood
- Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant
- Specimen Volume: 3 mL
- Collection Instructions: 1. Invert several times to mix blood.
  - 2. Send specimen in original tube.
- Specimen Stability Information: Ambient (preferred)/Refrigerated
- Specimen Type: Cultured fibroblasts
- Container/Tube: T-75 or T-25 flask
- Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks
- Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours
- Specimen Type: Skin biopsy
- Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]).
- Specimen Volume: 4-mm punch
- Specimen Stability Information: Refrigerated (preferred)/Ambient
Specimen Minimum Volume: Blood: 1 mL  Blood Spots: 5 punches, 3-mm diameter

Transport Temperature:
Varies

CPT Code Information: 81405-IDS (iduronate 2-sulfatase) (eg, mucopolysaccharidosis, type II), full gene sequence; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin, or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

Huntington Disease, Molecular Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Varies
(preferred)

Ambient
Frozen
Refrigerated

CPT Code Information: 81401-HTT (huntingtin) (eg, Huntington disease), evaluation to detect abnormal (eg, expanded) alleles

Hurler Syndrome, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.
heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5, 3-mm diameter

**Transport Temperature:**
Varies

**CPT Code Information:** 81406 IDUA (iduronidase, alpha-L-) (eg, mucopolysaccharidosis type I), full gene sequence; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ;

**FHMTB**

**Hydrocodone and metabolites**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days

- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80361

**HYDCU**

**Hydrocodone with Metabolite Confirmation, Urine**

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order OPATX / Opiates Confirmation, Chain of Custody, Urine 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 28 days

- Frozen 28 days
- Ambient 14 days

**CPT Code Information:** 80361; G0480 (if appropriate);
**Hydromorphone Confirmation, Urine**

**Specimen Requirements:**
- Collection Container/Tube: Plastic urine container
- Submission Container/Tube: Plastic, 60-mL urine bottle
- Specimen Volume: 20 mL

**Collection Instructions:**
1. Collect a random urine specimen.  
2. Submit 20 mL in 1 plastic bottle.  
3. No preservative.  

**Additional Information:**
1. No specimen substitutions.  
2. No STATS are accepted for this procedure.  
3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available.  
4. For chain-of-custody testing, order OPATX / Opiates Confirmation, Chain of Custody, Urine.  
5. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700.  

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine: Refrigerated (preferred) 28 days
- Frozen: 28 days
- Ambient: 14 days

**CPT Code Information:**
- 80361; G0480 (if appropriate)

**Hydroxychloroquine, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Red top
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1 mL

**Collection Instructions:**
1. Draw specimen immediately before next scheduled dose.  
2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 28 days
- Frozen: 28 days
- Ambient: 21 days

**CPT Code Information:**
- 80375; G0480 (if appropriate)

**Hydroxycorticosterone, 18**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 3 mL

**Collection Instructions:**
Separate serum from cells within 1 hour of collection.

**Specimen Minimum Volume:** Pediatric minimum only: 1.0 mL

**Transport Temperature:**
- Pediatric minimum only: 1.0 mL
- NOTE: Minimum volume does not allow for repeat analysis.

- Serum Frozen (preferred) 90 days
  - Refrigerated: 48 hours
  - Ambient: 24 hours
Hydroxyglutaric Acids, Glutaric Acid, Ethylmalonic Acid, and Methylsuccinic Acid, Blood Spot

**Specimen Requirements:**  Supplies: Card-Blood Spot Collection (Filter Paper) (T493)  
Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) (T493) from heel or finger stick  
Acceptable: Ahlstrom 226 filter paper, Munktell filter paper, Whatman Protein Saver 903 paper, available newborn screening card, blood collected in tubes containing heparin or EDTA and dried on filter paper  
Specimen Volume: 2 blood spots  
Collection Instructions: 1. Do not use device or capillary tube containing ACD to collect specimen. Sodium heparin or EDTA are acceptable, but must be spotted on card the same day as collected.  
2. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle).  
3. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours.  
4. Do not stack wet specimens.  
5. Do not expose specimen to heat or direct sunlight.  
Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions.  
2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot  

**Transport Temperature:**  
Whole blood  
Ambient (preferred)  123 days  
Frozen 123 days  
Refrigerated 123 days

Hydroxyglutaric Acids, Glutaric Acid, Ethylmalonic Acid, and Methylsuccinic Acid, Plasma

**Specimen Requirements:**  Collection Container/Tube: Preferred: Green top (sodium heparin)  
Acceptable: Lavender top (EDTA) plasma  
Submission Container/Tube: Plastic vial  
Specimen Volume: 0.1 mL

**Specimen Minimum Volume:** 0.02 mL

**Transport Temperature:**  
Plasma  
Refrigerated (preferred)  90 days  
Frozen 90 days  
Ambient 12 days

Hydroxyglutaric Acids, Glutaric Acid, Ethylmalonic Acid, and Methylsuccinic Acid, Serum

**Specimen Requirements:**  Container/Tube: Red top  
Submission Container/Tube: Plastic vial  
Specimen Volume: 0.1 mL

**Specimen Minimum Volume:** 0.02 mL
**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 90 days
  - Frozen: 90 days
  - Ambient: 4 days

**CPT Code Information:** 83918

**FVIST**

**Hydroxyzine (Vistaril, Atarax), Serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Varies: Refrigerated (preferred) 7 days
  - Frozen: 180 days
  - Ambient: 72 hours

**CPT Code Information:** 80375

**HYOX**

**Hyperoxaluria Panel, Urine**

**Specimen Requirements:** Patient Preparation: Fasting-overnight (12-14 hours). Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Have patient void the first-morning specimen, then collect specimen within 2 hours of first-morning void while patient continues to fast. Fluids are allowed. 2. No preservative. 3. Immediately freeze specimen.

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Urine: Frozen (preferred) 90 days
  - Refrigerated: 14 days

**CPT Code Information:** 82542

**FAVI**

**Hypersensitivity Pneumonitis Avian Panel**

**Specimen Requirements:** Draw blood in a Red-top tube(s). Serum-gel tube(s) is also acceptable. Spin down and send 3 mL of serum refrigerated.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 365 days
  - Frozen: 365 days
**Ambient** 24 hours

**CPT Code Information:** 86331x5

**FHPP2 57595**  
**Hypersensitivity Pneumonitis FEIA Panel II**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Collection instructions: Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.6 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 86001 x 8

**HYPS 42374**  
**Hypersensitivity Pneumonitis Panel, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86606; 86609 x 2;

**HCMGP 63158**  
**Hypertrophic Cardiomyopathy Multi-Gene Panel, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Whole Blood EDTA Ambient (preferred)
- Refrigerated

**CPT Code Information:** 81439

**HYPOG**  
**Hypoglycemic Agent Screen, Serum**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial
Specimen Volume: 3 mL

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Serum: Red
- Frozen (preferred) 14 days
- Ambient: 14 days
- Refrigerated: 14 days

**CPT Code Information:** 80307

**HIF2A**

61681

**Hypoxia-Inducible Factor Alpha (EPAS1/HIF2A) Gene, Exons 9 and 12 Sequencing**

**Specimen Requirements:** Only orderable as part of a profile. For more information see HEMP / Hereditary Erythrocytosis Mutations.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Whole blood
- Refrigerated: 30 days

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

**FIBUP**

57703

**Ibuprofen (Motrin, Advil, Nuprin), serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen: 180 days
- Ambient: 72 hours

**CPT Code Information:** 80329;

**ICOSI**

113518

**ICOS (CD278), Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostains Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1 mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
**TECHONLY Ambient**
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**RMALM 60778**
**Id MALDI-TOF Mass Spec AFB (Bill Only)**
**Specimen Requirements:** **For billing purposes only**
**Transport Temperature:**
Varies

**CPT Code Information:** 87118

**RMALA 62258**
**Id MALDI-TOF Mass Spec Anaerobe (Bill Only)**
**Specimen Requirements:** **For billing purposes only**
**Transport Temperature:**
Varies

**CPT Code Information:** 87076

**LCHB 60214**
**Id, Histoplasma/Blastomyces PCR (Bill Only)**
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.
**Transport Temperature:**
Varies

**CPT Code Information:** 87150 x 2

**RMALD 60029**
**Ident by MALDI-TOF Mass Spec (Bill Only)**
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.
**Transport Temperature:**
Varies

**CPT Code Information:** 87077

**LCCI 45463**
**Ident Rapid PCR Coccidioides (Bill Only)**
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.
**Transport Temperature:**
Varies
CPT Code Information: 87150

**PCRID**

Identification by PCR (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

CPT Code Information: 87798

RTBSP

Identification Mycobacterium tuberculosis Complex Speciation, PCR (Bill Only)

**Specimen Requirements:** **For billing purposes only**

**Transport Temperature:**

Varies

CPT Code Information: 87150

STAP

Identification Staphylococcus (Bill Only)

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**

Varies

CPT Code Information: 87077

STRP

Identification Streptococcus (Bill Only)

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**

Varies

CPT Code Information: 87077

COMM

Identification, Commercial Kit

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**

Varies

CPT Code Information: 87077
**IDH1 Mutation (R132H) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Iduronate-2-Sulfatase, Blood Spot**

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood spot collection card (T493) Acceptable: Ahlstrom 226 filter paper, Munktell TFN, and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is fingerstick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**
Whole blood Ambient (preferred) 90 days
Frozen 90 days
Refrigerated 90 days

**CPT Code Information:** 82657

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**Iduronate-2-sulfatase, Whole Blood**

**Specimen Requirements:** Collection Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Whole blood Ambient (preferred) 7 days
Refrigerated 7 days

**CPT Code Information:** 82657
**IFPCA 113304**

**IF Additional (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88350

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**IFPCI 113303**

**IF Initial (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88346

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**IGAI 70470**

**IgA Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**IGAS 87938**

**IgA Subclasses, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
  - Ambient 7 days
  - Frozen 7 days

**CPT Code Information:** 82784-IgA; 82787 x 2-Immunoglobulin subclasses;
**IGDI 70471**

**IgD Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**FGERA 75346**

**IgE Receptor Antibody**

**Specimen Requirements:** Container/Tube: Preferred: Red top tube Acceptable: Serum gel tube Specimen Volume: 1.0 mL Collection Instructions: Draw blood in a plain, red-top tube(s) or serum gel tube(s). Separate serum from cells immediately by centrifugation and aliquot into a polypropylene or similar plastic tube. Send 1 mL of serum frozen in plastic vial. Complete and submit with specimen: 1. National Jewish ADxImmunology request form. 2. Patient's date of birth is required on the National Jewish ADxImmunology request form for processing.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 365 days
- Refrigerated 7 days
- Ambient 48 hours

**CPT Code Information:** 88184; 88185 x 2;

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**FIGBP 57131**

**IGF Binding Protein-1 (IGFBP-1)**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). Spin down and separate within one hour. Ship 0.5 mL frozen in a plastic vial.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Red Frozen 200 days

**CPT Code Information:** 83519

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**IGGI 70473**

**IgG Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

IGGS 9259
IgG Subclasses, Serum
Specimen Requirements: Patient Preparation: Fasting preferred but not required
Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

CPT Code Information: 82784; 82787 x 4;

SUBIF 70620
IGG Subtypes Immunofluorescence, (IGG1, IGG2, IGG3, IGG4), Tissue
Specimen Requirements: Supplies: Renal Biopsy Kit (T231) Specimen Type: Kidney tissue
Container/Tube: Renal Biopsy Kit (T231), Zeus/Michel’s, Frozen Preferred: Frozen Acceptable: 4 frozen tissue unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Specimen Volume: Entire specimen Collection Instructions: Collect specimens according to the instructions in Renal Biopsy-Procedures of Handling Tissue for Light Microscopy, Immunohistology, and Electron Microscopy in Special Instructions. Additional Information: If standard immunoglobulin and complement immunofluorescence has already been performed, submit the residual frozen tissue (must contain glomeruli) on dry ice.
Transport Temperature:
Special Frozen (preferred)
Ambient
Refrigerated

CPT Code Information: 88346-primary IF; 88350-if additional IF;

CASF 8271
IgG/Albumin Ratio, Spinal Fluid
Specimen Requirements: Collection Container/Tube: Sterile vial Collection Container/Tube: Plastic vial Specimen Volume: 1 mL
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
CSF Refrigerated (preferred) 14 days

Ambient 14 days

Frozen 14 days

**CPT Code Information:** 82042-Albumin; 82784-IgG;

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**FG4FI 57851**

IgG4 Food Panel I

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 7 days

**CPT Code Information:** 86001 X 10

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**FGFP2 57904**

IgG4 Food Panel II

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 7 days

**CPT Code Information:** 86001 x 9; 

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**FG4FP 57591**

IgG4 Food Panel VIII

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 7 days

**CPT Code Information:** 86001 x 6

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Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**IgG4 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

| TECHONLY  | Ambient (preferred) | Refrigerated |

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**IGH Somatic Hypermutation Analysis, B-Cell Chronic Lymphocytic Leukemia (B-CLL)**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** Blood or Bone Marrow: 1 mL

**Transport Temperature:**

| Varies Refrigerated (preferred) | 72 hours |

| Ambient | 72 hours |

**CPT Code Information:** 81263-IGH (immunoglobulin heavy chain locus) (eg, leukemia and lymphoma, B-cell), variable region somatic mutation analysis

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**IgM Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

| TECHONLY  | Ambient (preferred) | Refrigerated |

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**IHC Additional (Bill Only)**

**IHC Additional (Bill Only)**

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Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88341

**IHA26**  
**113300**  
**IHC Additional, Professional Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88341-26

**IHTOA**  
**113209**  
**IHC Additional, Tech Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 88341-TC

**IHPCI**  
**113297**  
**IHC Initial (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342

**IHC26**  
**113299**  
**IHC Initial, Professional Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-26
IHTOI 113208

**IHC Initial, Tech Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC

IHMPc 113301

**IHC Multiplex (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88344

IHM26 113302

**IHC Multiplex, Professional Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88344-26

IHMT0 113211

**IHC Multiplex, Tech Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88344-TC

IMRGF 35276

**Imatinib Mesylate Responsive Genes, FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of
the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL

**Transport Temperature:**

- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:**

- 88271x2, 88291 DNA probe, each (first probe set), Interpretation and report; 88271x2 DNA probe, each; each additional probe set (if appropriate); 88271x1 DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**Imipramine and Desipramine, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

- Serum Red Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 7 days

**CPT Code Information:** 80335; G0480 (if appropriate);

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**Immunofixation Only, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Collection Instructions: Fasting

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 86334
Immunofixation, CSF
Specimen Requirements: Collect 3 mL of spinal fluid (CSF), in a sterile screw cap container. Ship frozen.

Specimen Minimum Volume: 2.5 mL
Transport Temperature:
CSF Frozen (preferred) 30 days
Refrigerated 5 days

CPT Code Information: 86335

Immunoglobulin A (IgA), Serum
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 82784

Immunoglobulin D (IgD), Serum
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 21 days
Ambient 21 days
Frozen 21 days

CPT Code Information: 82784

Immunoglobulin E (IgE), Serum
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

Specimen Minimum Volume: For total IgE: 0.3 mL; for total IgE and more than 1 allergen: 0.05 mL x number of allergen-specific IgEs + 0.25 mL dead space

Transport Temperature:
FLCP

**Immunoglobulin Free Light Chains, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 21 days
  - Ambient 72 hours

**CPT Code Information:** 82785

IGG

**Immunoglobulin G (IgG), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 82784

BCGR

**Immunoglobulin Gene Rearrangement, Blood**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole blood Ambient (preferred) 7 days
  - Refrigerated 7 days

**CPT Code Information:** 81261-IGH (Immunoglobulin heavy chain locus) (eg, leukemias and lymphomas B-cell), gene rearrangement analysis to detect abnormal clonal populations; amplified methodology (eg, polymerase chain reaction); 81264-IGK (Immunoglobulin kappa light chain locus) (eg, leukemia and lymphoma, B-Cell) gene rearrangement analysis, evaluation to detect abnormal clonal
populations;

**Immunoglobulin Gene Rearrangement, Bone Marrow**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

| Bone Marrow | Ambient (preferred) | 7 days |
| Refrigerated | 7 days |

**CPT Code Information:** 81261-IGH (Immunoglobulin heavy chain locus) (eg, leukemias and lymphomas, B-cell), gene rearrangement analysis to detect abnormal clonal population(s); amplified methodology (eg, polymerase chain reaction); 81264-IGK (Immunoglobulin kappa light chain locus) (eg, leukemia and lymphoma, B-cell), gene rearrangement analysis, evaluation to detect abnormal clonal population(s);

**Immunoglobulin Gene Rearrangement, Varies**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Body fluid Container/Tube: Sterile container Specimen Volume: At least 5 mL Collection Instructions: 1. If the volume is large, pellet cells prior to sending. 2. Send less volume at ambient temperature or as a frozen cell pellet. Specimen Stability Information: Body Fluid: Ambient/Refrigerated/Frozen Cell Pellet: Frozen Specimen Type: Paraffin-embedded bone marrow aspirate clot Container/Tube: Paraffin block Specimen Stability Information: Ambient Specimen Type: Frozen tissue Container/Tube: Plastic container Specimen Volume: 100 mg Collection Instructions: Freeze tissue within 1 hour of collection. Specimen Stability Information: Frozen Specimen Type: Paraffin-embedded tissue Container/Tube: Paraffin block Specimen Stability Information: Ambient Specimen Type: Tissue Slides: Unstained slides Specimen Volume: 10 Slides Specimen Stability Information: Ambient Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 5-10 mL Specimen Stability Information: Ambient/Refrigerated Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of DNA Specimen Stability Information: Refrigerated/Ambient

**Specimen Minimum Volume:** Body and spinal fluid: 1 mL Tissue: 50 mg Extracted DNA from blood or bone marrow: 50 microliters (mcL) at 20 ng/mcL

**Transport Temperature:**

| Varies | Varies |

**CPT Code Information:** 81261-IGH (Immunoglobulin heavy chain locus) (eg, leukemias and lymphomas B-cell), gene rearrangement analysis to detect abnormal clonal populations; amplified methodology (eg, polymerase chain reaction); 81264-IGK (Immunoglobulin kappa light chain locus) (eg, leukemia and lymphoma, B-cell) gene rearrangement analysis, evaluation to detect abnormal clonal populations;

**Immunoglobulin Heavy and Light Chain (HLC) Pairs, IgA Kappa and IgA Lambda**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 589
**Immunoglobulin Heavy and Light Chain (HLC) Pairs, IgG Kappa and IgG Lambda**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 82784; 83883 x 2;

**HLCG**

61722

**Immunoglobulin Heavy and Light Chain (HLC) Pairs, IgM Kappa and IgM Lambda**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 82784; 83883 x 2;

**HLCM**

61721

**Immunoglobulin M (IgM), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Current as of October 16, 2018 7:53 pm CDT

800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com

Page 590
IGGS4  84250

**Immunoglobulin Subclass IgG4, Serum**

**Specimen Requirements:** Patient Preparation: Fasting preferred but not required
Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 82784

TLCU  87934

**Immunoglobulin Total Light Chains, Urine**

**Specimen Requirements:** If serum is being submitted on the same patient for FLCP / Immunoglobulin Free Light Chains, Serum; order that test under a different order. Submit only 1 of the following specimens: Specimen Type: Random urine Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 1 mL Collection Instructions: Collect a random urine specimen. Specimen Type: 24-Hour urine Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 1 mL Collection Instructions: Collect urine for 24 hours.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 20 days
- Ambient 72 hours

**CPT Code Information:** 83883 x 2

IMMG  8156

**Immunoglobulins (IgG, IgA, and IgM), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 82787
CPT Code Information: 82784 x 3

**FIMMC**

**Immunoglobulins, CSF Quantitative**

**Specimen Requirements:** Submit 1 mL of spinal fluid (CSF), centrifuge and separate to remove cellular material. Send refrigerate in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 8 days
- Frozen 365 days
- Ambient 8 hours

CPT Code Information: 82784-Immunoglobulin IgA; 82784-Immunoglobulin IgG; 82784-Immunoglobulin IgM;

**MONOS**

**Infectious Mononucleosis, Rapid Test, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 86308

**IBDGP**

**Inflammatory Bowel Disease Primary Immunodeficiency (PID) Panel**

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card-Blood Spot Collection Filter Paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Whatman FTA Classic paper, Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient <1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type:
Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle’s minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur.

Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Whole blood: 1 mL

**Transport Temperature:**

Varies Varies

**CPT Code Information:** 81479

**IBDP 81443**

**Inflammatory Bowel Disease Serology Panel, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86255; 86671 x 2;

**IMTF 35277**

**Inflammatory Myofibroblastic Tumors (IMT), 2p23 (ALK) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

Tissue Ambient (preferred)

Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25
cells, each probe set (if appropriate); 88274 – Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**INFXR 63437**

Infliximab Quantitation with Reflex to Antibodies to Infliximab, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red Frozen (preferred) 28 days
- Refrigerated 28 days

**CPT Code Information:** 80299

**SFLA 8169**

Influenza Virus A Antibodies, IgG and IgM (Separate Determinations), Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.25 mL Collection Instructions: Indicate influenza virus A

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86710 x 2

**SFLB 8175**

Influenza Virus B Antibodies, IgG and IgM (Separate Determinations), Serum

**Specimen Requirements:** Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.25 mL Collection Instructions: Indicate influenza virus B.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86710 x 2

**FLUMS 62668**

Influenza Virus Type A and Type B, and Respiratory Syncytial Virus (RSV), Molecular Detection, PCR, Miscellaneous Sources

**Specimen Requirements:** Submit only 1 of the following specimens: Preferred: Specimen Type:
Nasal or nasopharyngeal aspirate Container/Tube: Sterile container Specimen Volume: 0.5 mL Specimen Type: Throat or nasal swab Supplies: Culturette (BBL Culture Swab) (T092) Container/Tube: Sterile container with viral transport media Collection Instructions: 1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells. 2. Swab must be placed in viral transport media (for example, M4-RT, M4, or M5 media); BBL Culture Swab (T092) container includes a stabilizing media. Acceptable: Specimen Type: Nasopharyngeal washing Container/Tube: Sterile container Specimen Volume: 0.5 mL Specimen Type: Bronchial washing or bronchoalveolar lavage fluid Container/Tube: Sterile container Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87631

**FLUNP 62669**

Influenza Virus Type A and Type B, and Respiratory Syncytial Virus (RSV), Molecular Detection, PCR, Nasopharyngeal Swab

**Specimen Requirements:** Supplies: Nasopharyngeal Swab (Rayon Mini-Tip Swab) (T515) M4-RT (T605) Specimen Type: Nasopharyngeal swab Container/Tube: Sterile container with viral transport media Collection Instructions: 1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells. 2. Swab must be placed in viral transport media (for example, M4-RT (T605), M4, or M4 media).

**Specimen Minimum Volume:** Nasopharyngeal swab submitted in minimum volume of 0.3 mL of viral transport media (eg, M4-RT)

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87631

**INHAB 86336**

Inhibin A and B, Tumor Marker, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 83520-Inhibin B; 86336-Inhibin A;

**INHA 81049**

Inhibin A, Tumor Marker, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  7 days
Frozen                     90 days

**CPT Code Information:** 86336

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**INHB**

**88722**

**Inhibin B, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
Volume: 0.4 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  7 days
Frozen                     90 days

**CPT Code Information:** 83520

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**INHIB**

**70476**

**Inhibin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**INHU**

**82789**

**Insulin (Human), IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred)  14 days
Frozen                     90 days

**CPT Code Information:** 86003
**Insulin Antibodies, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 86337

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**Insulin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Insulin, Free and Total, Serum**

**Specimen Requirements:** Patient Preparation: 1. Fasting (8 hours) 2. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Avoid hemolysis 2. Label specimens with corresponding draw times. 3. Serum-gel tubes should be centrifuged within 2 hours of collection. 4. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. 5. Send frozen to laboratory Additional Information: If multiple specimens are drawn, send separate order for each specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 180 days
- Refrigerated 7 days

**CPT Code Information:** 83527-Free Insulin; 83525-Total Insulin;

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**Insulin, Serum**
**Specimen Requirements:** Patient Preparation: 1. Patient should be fasting. 2. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Avoid hemolysis 2. Label specimens with corresponding draw times. 3. Serum-gel tubes should be centrifuged within 2 hours of collection. 4. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Additional Information: If multiple specimens are drawn, send separate order for each specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 180 days
- Refrigerated 7 days

**CPT Code Information:** 83525-Each

**IGFGP 36365**

**Insulin-Like Growth Factor 1 (IGF1), LC-MS and Insulin-Like Growth Factor-Binding Protein 3 (IGFBP3) Growth Panel**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down promptly. Aliquot into 2 equal portions.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen 14 days

**CPT Code Information:** 83520-IGFBP3; 84305-IGFMS;

**FIGF2 80758**

**Insulin-like Growth Factor 2 (IGF-2)**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). Separate within 1 hour of collection, freeze immediately. Send 0.5 mL serum frozen. Note: 1. Serum gel tube is okay, but must pour off into a plastic screw cap vial and freeze. 2. Minimum volume does not permit for repeat analysis

**Specimen Minimum Volume:** 0.1 mL NOTE: Minimum volume does not allow for repeat analysis.

**Transport Temperature:**
- Serum Frozen 200 days

**CPT Code Information:** 83519

**IGFMS 62750**

**Insulin-Like Growth Factor-1, LC-MS, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Frozen (preferred) 28 days
Ambient 72 hours
Refrigerated 72 hours

CPT Code Information: 84305

**IGFB3 83300**

Insulin-Like Growth Factor-Binding Protein 3 (IGFBP-3), Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.8 mL Collection Instructions: Spin down promptly.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Frozen 14 days

CPT Code Information: 83520

**INSM1 602573**

Insulinoma-Associated Protein 1 (INSM1), Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Preferred: 2 Unstained, positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**INI1 70477**

Integrase Interactor 1 (INI1/BAF47) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
**Interferon-gamma (IFN-y) Serum**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum Frozen 365 days

**CPT Code Information:** 83520

**Interleukin 1a**

**Specimen Requirements:** Submit one of the following: Serum Specimen Type: Serum Contained/Tube: Red or SST Specimen Volume: 3 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 3 mL serum in a screw-capped vial, shipped frozen. Plasma Specimen Type: Plasma Contained/Tube: lavender-top EDTA tube Specimen Volume: 3 mL Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s). Spin down as soon as possible and send 3 mL of EDTA plasma frozen in a plastic vial. Patient Preparation: Patient should not be on any Corticosteroids, anti-inflammatory medications or pain killers, if possible, for at least 48 hours prior to collection of specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Frozen 30 days

**CPT Code Information:** 83519

**Interleukin 1b**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Specimen Type: Serum Contained/Tube: Red Specimen Volume: 3 mL Collection Instructions: Draw blood in a plain, red-top tube(s), serum-gel tube(s) is acceptable. Separate immediately and send 3 mL of serum frozen in a plastic vial. Plasma Specimen Type: Plasma Contained/Tube: EDTA Lavender Top Specimen Volume: 3 mL Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s). Separate immediately and send 3 mL of EDTA plasma frozen in a plastic vial. Patient Preparation: Patient should NOT be on any Corticosteroids, anti-inflammatory medications or pain killers, if possible, for at least 48 hours prior to collection of specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Frozen 30 days

**CPT Code Information:** 83519

**Interleukin 2**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial. Plasma Draw blood in a green-top (lithium heparin) tube(s), plasma gel tube(s) is acceptable. Spin down and send 1 mL lithium heparin plasma frozen in a plastic vial. Separate specimens must be
submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Frozen 365 days

**CPT Code Information:** 83520

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**FIL2S**

**Interleukin 2 Receptor (CD25), Soluble**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red Specimen Volume: 1 mL Submit only 1 of the following specimens: Serum: Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down within 2 hours of collection and freeze immediately. Send 1 mL of serum frozen in a plastic vial. Separate specimens must be submitted when multiple test are ordered. Plasma Collection Instructions: Draw blood in a green-top (lithium heparin) tube(s), plasma gel tube is acceptable. Spin down within 2 hours of collection and freeze immediately. Send 1 mL lithium heparin plasma frozen in a plastic vial. Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Frozen 365 days

**CPT Code Information:** 83520

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**IL28V**

**Interleukin 28B (IL28B) Variant (rs12979860), Varies**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: DNA Saliva Collection Kit (T786) Container/Tube: Saliva Swab Collection Kit (T786: fees apply) Specimen Volume: One swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient 30 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
Varies

**CPT Code Information:** 81283

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**IL5P**

**Interleukin 5, Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission
Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate plasma from cells; 1,500 x g for 10 minutes. 3. Freeze specimen within 30 minutes

**Specimen Minimum Volume:** 0.3 mL  
**Transport Temperature:**  
Plasma EDTA Frozen (preferred) 21 days  
Refrigerated 24 hours  

**CPT Code Information:** 83520  

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**IL6**  
63020  

**Interleukin 6 (IL-6), Plasma**  
**Specimen Requirements:** Collection Container/Tube: Lavender-top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate plasma from cells; 1,500 x g for 10 minutes. 3. Freeze specimen within 30 minutes  

**Specimen Minimum Volume:** 0.3 mL  
**Transport Temperature:**  
Plasma EDTA Frozen (preferred) 21 days  
Refrigerated 24 hours  

**CPT Code Information:** 83520  

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**FIL1S**  
57534  

**Interleukin-10 (IL-10) Serum**  
**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.  

**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Serum Frozen 365 days  

**CPT Code Information:** 83520  

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**FIL4S**  
57585  

**Interleukin-4 (IL-4) Serum**  
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.  

**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Serum Frozen 365 days  

**CPT Code Information:** 83520
Interleukin-8 (IL-8) Serum

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Serum Frozen 28 days

CPT Code Information: 83520

Intrinsic Factor Blocking Antibody, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Additional Information: This test should not be ordered on patients who have received vitamin B12 injection within the last 2 weeks.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 86340

Iodine, 24 Hour, Urine

Specimen Requirements: Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections. 3. If this test is used in conjunction with the (131)I uptake test, then specimen collection should begin immediately after the dose of (131)I is given (ie, the patient should void and discard urine just prior to the (131)I, and all subsequent urine should be collected for the next 24 hours). The last void should be included in the collection.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Urine Refrigerated (preferred) 146 days
Ambient 146 days
Frozen 146 days

CPT Code Information: 83789

Iodine, Random, Urine

Specimen Requirements: Collection Container/Tube: Clean, plastic urine collection container
Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 1 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 146 days
- Ambient 146 days
- Frozen 146 days

**CPT Code Information:** 83789

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**IOD**

**81574**

**Iodine, Serum**

**Specimen Requirements:** Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1 mL Collection Instructions: 1. Allow specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Ambient 21 days
- Frozen 21 days

**CPT Code Information:** 83789

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**ICRU**

**60440**

**Iodine/Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 2 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen 30 days
**CPT Code Information:** 83789 Iodine Concentration; 82570 Creatinine Concentration;

**HEXP 61713**

**Iohexol, Plasma**

**Specimen Requirements:**
- Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Green top (heparin) Submission Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 1 mL
- Specimen Minimum Volume: 0.5 mL
- Transport Temperature: Plasma Heparin Refrigerated (preferred) 7 days  
  Frozen 35 days

**CPT Code Information:** 82542

**HEXU 61712**

**Iohexol, Timed Collection, Urine**

**Specimen Requirements:**
- Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL Collection Instructions: Collect a timed urine specimen.
- Specimen Minimum Volume: 0.5 mL
- Transport Temperature: Urine Refrigerated (preferred) 7 days  
  Frozen 35 days

**CPT Code Information:** 82542

**FIPEC 91134**

**Ipecac Use Markers**

**Specimen Requirements:**
- Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.
- Specimen Minimum Volume: 0.6 mL
- Transport Temperature: Varies Refrigerated (preferred) 14 days  
  Frozen 180 days  
  Ambient 72 hours

**CPT Code Information:** 80323

**FEC 34624**

**Iron and Total Iron-Binding Capacity, Serum**

**Specimen Requirements:**
- Patient Preparation: 1. Fasting (12 hours) 2. Iron-containing supplements should be avoided for 24 hours prior to draw. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw blood before 12 noon
Serum gel tubes should be centrifuged within 2 hours of collection. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 180 days

**CPT Code Information:** 83540-Iron; 83550-Iron-binding capacity;

**Iron, Liver Tissue**

**Specimen Requirements:** Supplies: Metal Free Specimen Vial (T173) Container/Tube: Preferred: Mayo metal-free specimen vial (blue label) (T173) Acceptable: Paraffin block, if not more than 1 or 2 cuts have been made to it for slides. Specimen Volume: 2 mg Collection Instructions: 1. Two mg of liver tissue is required. This is typically a piece of tissue from a 22-gauge needle biopsy at least 2 cm long. If an 18-gauge needle is used, the tissue must be at least 1 cm in length. 2. Any specimen vial other than a Mayo metal-free vial used should be plastic, leached with 10% nitric acid for 2 days, rinsed with redistilled water, and dried in clean air. Additional Information: Paraffin blocks will be returned 3 days after analysis.

**Specimen Minimum Volume:** 2 cm (22-gauge needle), 1 cm (18-gauge needle), or 2 mm x 2 mm (punch) 0.3 mg by dry weight

**Transport Temperature:**
- Liver Tissue Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 83540

**ISH Additional (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88364

**ISH Additional, Professional Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
Refrigerated

CPT Code Information: 88364-26

**ISTOA**  
113217  
**ISH Additional, Tech Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

Ambient

(preferred)

Refrigerated

CPT Code Information: 88364-TC

**ISPCI**  
113305  
**ISH Initial (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

Ambient

(preferred)

Refrigerated

CPT Code Information: 88365

**ISH26**  
113307  
**ISH Initial, Professional Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

Ambient

(preferred)

Refrigerated

CPT Code Information: 88365-26

**ISTOI**  
113216  
**ISH Initial, Tech Only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

Ambient

(preferred)

Refrigerated

CPT Code Information: 88365-TC
Islet 1 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Islet Antigen 2 (IA-2) Antibody, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 72 hours

**CPT Code Information:** 86341

Islet Cell Cytoplasmic Ab, IgG

**Specimen Requirements:** Draw blood in a serum gel tube(s), plain red-top tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 365 days
Ambient 48 hours

**CPT Code Information:** 86341

Isoagglutinin Titer, Anti-A, Serum

**Specimen Requirements:** Container/Tube: Red top Submission Container/Tube: Serum Aliquot tube Specimen Volume: 2.5 mL Pediatric Volume: 2 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Isoagglutinin Titer, Anti-B, Serum

**Specimen Requirements:** Container/Tube: Red top Submission Container/Tube: Serum Aliquot tube Specimen Volume: 2.5 mL Pediatric: 2 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red: Ambient (preferred) 4 days
- Frozen: 10 days
- Refrigerated: 10 days

**CPT Code Information:** 86886

Isocitrate Dehydrogenase 1 and 2 (IDH1/IDH2) Mutation Analysis, Tumor

**Specimen Requirements:** Preferred: Specimen Type: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable: Specimen Type: Slides Slides: 1 stained and 10 unstained slides Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides (nonbaked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology slide (direct smears or ThinPrep) Slides: 1-2 slides Collection Instructions: Submit 1-2 slides stained and coverslipped with at least 5,000 total nucleated cells Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** See Specimen Required field.

**Transport Temperature:** Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** IDH1:; 81120; 88381; ; IDH2:; 81121; IHDI 82773

Isocyanate HDI, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL deadspace
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**IMDI**

**82774**

**Isocyanate MDI, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL deadspace

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**ITDT**

**82775**

**Isocyanate TDI, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL deadspace

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**FINHP**

**75064**

**Isoniazid, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum frozen in plastic vial. Plasma Draw blood in a lavender-top or pink-top (EDTA) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL of EDTA plasma frozen in plastic vial.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Varies Frozen 120 days

CPT Code Information: 80375
Isovaleryl-CoA Dehydrogenase (IVD) Gene Mutation Analysis (A282V)

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81400-IVD (isovaleryl-CoA dehydrogenase) (eg, isovaleric acidemia), A28SV variant

Ispaghula, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Itraconazole, Serum

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.18 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 29 days
- Ambient 29 days
- Frozen 29 days

**CPT Code Information:** 80299
J-Chain Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Jack Fruit, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

Jack Mackerel, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

JAK2 (9p24.1) Rearrangement for Hematologic Disorders, FISH

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.
**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271 x 1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**JAKXB**

**JAK2 Exon 12 and Other Non-V617F Mutation Detection, Blood**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 5 days
- Ambient 5 days

**CPT Code Information:** 0027U-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder), exon 12 sequence and exon 13 sequence, if performed

**JAKXM**

**JAK2 Exon 12 and Other Non-V617F Mutation Detection, Bone Marrow**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Bone Marrow Refrigerated (preferred) 5 days
- Ambient 5 days

**CPT Code Information:** 0027U-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder), exon 12 sequence and exon 13 sequence, if performed

**JAKXR**

**JAK2 Exon 12-15 Sequencing, Polycythemia Vera Reflex**

**Specimen Requirements:** Only orderable as a reflex. For more information, see PVJAK / Polycythemia Vera, JAK2 V617F with Reflex to JAK2 Exon 12-15, Sequencing for Erythrocytosis.
**Specimen Minimum Volume:** Blood, Bone marrow: 0.5 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 5 days
- Ambient 5 days

**CPT Code Information:** 0027U-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder), exon 12 sequence and exon 13 sequence, if performed

**JAK2B**

**JAK2 V617F Mutation Detection, Blood**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole Blood EDTA Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 81270-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder) gene analysis, p.Val617Phe (V617F) variant

**JAK2M**

**JAK2 V617F Mutation Detection, Bone Marrow**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Bone Marrow Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 81270-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder) gene analysis, p.Val617Phe (V617F) variant

**JAK2V**

**JAK2 V617F Mutation Detection, Varies**

**Specimen Requirements:** Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube with indication of volume and concentration of the DNA Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and indicate volume and concentration of the DNA. Specimen Stability Information: Refrigerated/Ambient

**Specimen Minimum Volume:** Extracted DNA from blood or bone marrow: 50 microliter at 20 ng/microliter

**Transport Temperature:**
- Varies Varies
CPT Code Information: 81270-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder) gene analysis, p.Val617Phe (V617F) variant

FJPE 57921  
Jalapeno/Chipotle (Capsicum annuum) IgE  
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerate in a plastic vial.  
**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
- Serum Refrigerated (preferred) 28 days  
- Frozen 365 days  
- Ambient 28 days

CPT Code Information: 86003

JCEDR 82865  
Japanese Cedar, IgE  
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.  
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space  
**Transport Temperature:**  
- Serum Refrigerated (preferred) 14 days  
- Frozen 90 days

CPT Code Information: 86003

JMIL 82831  
Japanese Millet, IgE  
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.  
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space  
**Transport Temperature:**  
- Serum Refrigerated (preferred) 14 days  
- Frozen 90 days

CPT Code Information: 86003

FJCV 81827  
JC Polyoma Virus DNA, Quantitative Real-Time PCR, Plasma
**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Plasma (Preferred) Container/Tube: Lavender-top (EDTA) tube or Yellow-top (ACD-A) tube(s). Specimen volume: 0.7 mL. Collection Instructions: Draw blood in a Lavender-top (EDTA) tube or yellow-top (ACD-A) tube(s). Spin down and transfer 0.7 mL EDTA or ACD-A plasma to a screw-cap plastic vial. Submit frozen. Specimen Type: Serum Container/Tube: Red-top tube, serum gel is acceptable Specimen volume: 0.7 mL. Collection instructions: Draw blood in a plain, red-top tube(s), serum gel tube is acceptable. Spin down and transfer 0.7 mL serum to a screw-top plastic vial. Submit frozen.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Frozen (preferred) 30 days
- Refrigerated 7 days
- Ambient 48 hours

**CPT Code Information:** 87799

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**JC Virus Detection by In Situ Hybridization**

**Specimen Requirements:** Specimen Type: Formalin-fixed, paraffin-embedded tissue block Supplies: Pathology Packaging Kit (T554) Specimen Volume: Entire block Specimen Type: Slides Slides: 4 Unstained glass, positively charged slides with 5 (+ or - 1)-microns formalin-fixed, paraffin-embedded tissue

**Transport Temperature:**
- Special Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88365-Primary; 88364-If additional ISH;

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**JC Virus, Molecular Detection, PCR, Spinal Fluid**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Preferred: 12 x 75-mm screw cap vial (T465) Acceptable: Sterile screw cap vial Container/Tube: Sterile vial Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

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**Jo 1 Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.50 mL

**Specimen Minimum Volume:** 0.35 mL
**Transport Temperature:**
Serum Refrigerated (preferred) 21 days
Frozen 21 days

**CPT Code Information:** 86235

**JOHN 82900**

**Johnson Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**JUNE 82893**

**June Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**FWJR 57953**

**Juniper Western (Juniperus occidentalis) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

**CPT Code Information:** 86003
**Kappa and Lambda Free Light Chains (Bence Jones Protein), Quantitative, Urine**

**Specimen Requirements:** Specimen Type: Urine Submission Container/Tube: Two, Plastic 6-mL tube(s) (MML Supply T465) Specimen Volume: 8 mL (Two, 6 mL tubes) Collection Instructions: 1. Collect urine for 24 hours (NO preservative). 2. Refrigerate specimen during the 24-hour collection. 3. Send specimen refrigerate in 2 plastic, 6-mL urine tube(s), (MML Supply T465) 4. Collection volume and duration are required.

**Specimen Minimum Volume:** 4 mL (2 vials 2 mL each)

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Ambient 2 hours

**CPT Code Information:** 83883/x2; 84156; 86335;

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**Kappa and Lambda Light Chain mRNA, In Situ Hybridization (ISH) Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 5 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88365-TC, primary; 88364-TC, if additional ISH;

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**Kappa Light Chain (KappaC) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**KappaLambda IHC (Bill Only)**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
Varies Ambient
(preferred)
Refrigerated

CPT Code Information: 88342

Keratan Sulfate Quantitative, Urine

Specimen Requirements: Supplies: Plastic, Urine Tubes, 10 mL (T068) Specimen Volume: 1 mL Collection Instructions: 1. Collect a random urine collection (early morning preferred). 2. Immediately freeze specimen.

Specimen Minimum Volume: 0.5 mL

Transport Temperature: Urine Frozen 365 days

CPT Code Information: 82542

Keratin (34BE12) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Keratin (AE1/AE3) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
**KRTCA 70494**  
**Keratin (CAM 5.2) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**KRTOS 70495**  
**Keratin (OSCAR) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**KRT19 70490**  
**Keratin 19 (KRT19) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**KRT20 70491**  
**Keratin 20 (KRT20) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
KRT56 70487  Keratin 5/6 (KRT5/6) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

KRT7 70488  Keratin 7 (KRT7) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

KETAX 62730  Ketamine and Metabolite Confirmation, Chain of Custody, Urine

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours
KETAU 89443

**Ketamine and Metabolite Confirmation, Urine**

**Specimen Requirements:** Supplies: Urine Container, 60 mL (T313) Collection Container/Tube: Plastic, 60-mL urine container (T313) Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

FKMS 57857

**Ketamine and Metabolite Screen, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 5 mL serum refrigerated in a plastic preservative-free vial. Plasma Draw blood in a lavender-top (EDTA) tube(s) or green-top (heparin) tube(s), (Plasma gel tube is not acceptable.) Spin down and send 5 mL EDTA or heparinized plasma refrigerated in a plastic preservative-free vial.

**Specimen Minimum Volume:** 2.4 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
- Frozen 270 days
- Ambient 14 days

FKETO 90317

**Ketoconazole, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). Spin down and send 1 mL of serum refrigerated in plastic vial. Plasma Draw blood in an EDTA lavender-top or pink-top tube(s). Spin down and send 1 mL of EDTA plasma in refrigerated in plastic vial.

**Specimen Minimum Volume:** 0.22 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen
Ki-67 (MIB-1) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)

Refrigerated

CPT Code Information: 80375

Ki-67(MIB-1), Breast, Quantitative Immunohistochemistry, Automated

Specimen Requirements: Specimen Type: Preferred: Formalin-fixed, paraffin-embedded tissue block containing invasive or metastatic breast carcinoma Acceptable: 2 Unstained sections, containing invasive or metastatic breast carcinoma, on charged slides cut at 4 microns <1 month ago. Tissue on the slides should have been fixed in 10% neutral buffered formalin. Supplies: Pathology Packaging Kit (T554) Collection Instructions: Submit paraffin-embedded invasive or metastatic breast carcinoma tissue. Additional Information: Paraffin block will be returned with the final report.

Transport Temperature:
Special Ambient (preferred)

Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Ki-67(MIB-1), Gastrointestinal/Pancreatic Neuroendocrine Tumors, Quantitative Immunohistochemistry, Automated

Specimen Requirements: Supplies: Pathology Packaging Kit (T554) Specimen Type: Preferred: Formalin-fixed, paraffin-embedded tissue block containing neuroendocrine tumor of the pancreas or gastrointestinal (GI) tract including metastases. Acceptable: 2 unstained sections, containing neuroendocrine tumor of the pancreas or GI tract including metastases, on charged slides cut at 4 microns <1 month ago. Tissue on the slides should have been fixed in 10% neutral buffered formalin. Container/Tube: Pathology Packaging Kit (T554) Collection Instructions: Submit formalin-fixed, paraffin-embedded tissue block. Additional Information: Paraffin block will be returned with the final report.

Transport Temperature:
Special Ambient (preferred)

Refrigerated

CPT Code Information: 88361
Ki-67(MIB-1), Gastrointestinal/Pancreatic Neuroendocrine Tumors, Quantitative Immunohistochemistry, Manual

Specimen Requirements: This is not an orderable test. Order PATHC / Pathology Consultation. The consultant will determine the need for special stains. Specimen Type: Preferred: Formalin-fixed, paraffin-embedded tissue block containing neuroendocrine tumor of the pancreas or gastrointestinal (GI) tract including metastases. Acceptable: 2 Unstained sections, containing neuroendocrine tumor of the pancreas or GI tract including metastases, on charged slides cut at 4 microns <1 month ago. Tissue on the slides should have been fixed in 10% neutral buffered formalin. Supplies: Pathology Packaging Kit (T554) Collection Instructions: 1. Submit formalin-fixed, paraffin-embedded tissue block. 2. Attach the green pathology address label included in the kit to the outside of the transport container. Additional Information: Paraffin block will be returned with the final report.

Transport Temperature:
Special Ambient (preferred)
Refrigerated

Ki67 + Melan A Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

Ki67 Breast IHC Manual

Specimen Requirements: This is not an orderable test. Order PATHC / Pathology Consultation. The consultant will determine the need for special stains. Supplies: Pathology Packaging Kit (T554) Specimen Type: Preferred: Formalin-fixed, paraffin-embedded tissue block containing invasive or metastatic breast carcinoma Acceptable: 2 unstained sections, containing invasive or metastatic breast carcinoma, on charged slides cut at 4 microns <1 month ago. Tissue on the slides should have been fixed in 10% neutral buffered formalin. Container/Tube: Pathology Packaging Kit (T554) Collection Instructions: Submit paraffin-embedded invasive or metastatic breast carcinoma tissue. Additional Information: Paraffin block will be returned with the final report.

Transport Temperature:
Special Ambient (preferred)
Refrigerated
**CPT Code Information:** 88360

**Kidney Bean (Red), IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**Kidney Stone Analysis**

**Specimen Requirements:** Supplies: Stone Analysis Collection Kit (T550) Sources: Bladder, kidney, prostatic, renal, or urinary Specimen Volume: Entire dried calculi specimen Collection Instructions: 1. Prepare specimen per Patient Collection Instructions for Kidney Stones in Special Instructions. 2. Do not place stone directly in a bag. If specimen is received in a bag, either transfer stone into a screw-capped, plastic container or place bag containing stone in a screw-capped, plastic container.

**Specimen Minimum Volume:** Entire stone

**Transport Temperature:**
- Stone Ambient (preferred)
- Frozen 365 days
- Refrigerated 365 days

**CPT Code Information:** 82365

**Kingella kingae, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Kingella kingae DNA is unlikely. Submit only 1 of the following specimens: Specimen Type: Synovial fluid Preferred: Lavender top (EDTA) Acceptable: Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container Specimen Volume: 0.5 mL Collection Instructions: Send specimen in original tube (preferred). Specimen Stability Information: Refrigerated (preferred) <7 days /Frozen <7 days Specimen Type: Fresh tissue or biopsy Sources: Bone, joint, synovium, heart valve, aorta, or endocardium Container/Tube: Sterile container Specimen Volume: Entire collection or 5 mm (3)- approximately the size of a pencil eraser Collection Instructions: Collect fresh tissue specimen. Specimen Stability Information: Refrigerated (preferred) <7 days/ Frozen <7 days Supplies: Tissue Block Container (T553) Specimen Type: Formalin-fixed, paraffin-embedded tissue block Sources: Bone, joint, synovium, heart valve, aorta, or endocardium Container/Tube: Sterile container for cut sections or Tissue Block Container (T553) Specimen Volume: Submit formalin-fixed paraffin-embedded tissue block to be cut and returned. Alternately, perform cuts and place two to five
10-micron sections in a sterile container for submission (minimum volume: two 10-micron sections).
Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Fluid: 0.5 mL Tissue: 5 mm(3) or two 10-micron sections

**Transport Temperature:**
Varies

**CPT Code Information:** 87798

**Kingella kingae, Molecular Detection, PCR, Blood**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Kingella kingae DNA is unlikely. Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot Specimen Volume: 1 mL Collection Instructions: Send specimen in original tube (preferred).

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 7 days
Frozen 7 days

**CPT Code Information:** 87798

**KIT Asp816Val Mutation Analysis, Blood**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD-B (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood.

**Specimen Minimum Volume:** Blood: 1 mL

**Transport Temperature:**
Whole blood Ambient (preferred) 7 days
Refrigerated 7 days

**CPT Code Information:** 81273-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, mastocytosis), gene analysis, D816 variant(s)

**KIT Asp816Val Mutation Analysis, Qualitative PCR**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: 1. Label specimen as extracted DNA from blood or bone marrow 2. Indication volume and concentration of DNA Specimen Stability Information: Refrigerated/Ambient

**Specimen Minimum Volume:** Extracted DNA: 50 mcL at 20 ng extracted DNA/mcL

**Transport Temperature:**
Varies

**CPT Code Information:** 88802

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**CPT Code Information:** 81273

**KITBM 61745**

**KIT Asp816Val Mutation Analysis, Qualitative PCR, Bone Marrow**

**Specimen Requirements:** Container/Tube: Bone marrow Preferred: EDTA (lavender top) Acceptable: ACD-B (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Bone Marrow: Ambient (preferred) 7 days
- Refrigerated: 7 days

**CPT Code Information:** 81273-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, mastocytosis), gene analysis, D816 variant(s)

**KIT11 35336**

**KIT Exon 11, Mutation Analysis**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population. Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor population; slides may be stained and/or scraped. Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81272; 88381-Microdissection, manual

**KIT13 35337**

**KIT Exon 13, Mutation Analysis**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor population; slides may be stained and/or scraped Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
**KIT17 35338**

**KIT Exon 17, Mutation Analysis**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor population; slides may be stained and/or scraped Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81272-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, gastrointestinal stromal tumor [GIST], acute myeloid leukemia, melanoma), gene analysis, targeted sequence analysis (eg, exons 8, 11, 13, 17, 18); 88381-Microdissection, manual;

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**KIT8 35334**

**KIT Exon 8, Mutation Analysis**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor population; slides may be stained and/or scraped Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81272-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, gastrointestinal stromal tumor [GIST], acute myeloid leukemia, melanoma), gene analysis, targeted sequence analysis (eg, exons 8, 11, 13, 17, 18); 88381-Microdissection, manual;

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**KIT9 35335**

**KIT Exon 9, Mutation Analysis**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population Collection Instructions: Process all
specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor population; slides may be stained and/or scraped. Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:**
- 81272-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, gastrointestinal stromal tumor [GIST], acute myeloid leukemia, melanoma), gene analysis, targeted sequence analysis (eg, exons 8, 11, 13, 17, 18);
- 88381-Microdissection, manual;

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**KIT Immunostain, Technical Component Only**

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693)
- Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693)
- Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick.
- Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY
- Ambient (preferred)
- Refrigerated

**CPT Code Information:**
- 88342-TC, primary; 88341-TC, if additional IHC;

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**KIT Mutation Exons 8-11 and 17, Hematologic Neoplasms, Sequencing, Varies**

**Specimen Requirements:**
- Submit only 1 of the following specimens:
  - Specimen Type: Blood Container/Tube: EDTA (lavender top) or ACD (yellow top) Specimen Volume: 3 mL.
  - Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood.
  - Specimen Stability Information: Ambient (preferred)/Refrigerate
  - Specimen Type: Bone marrow Container/Tube: EDTA (lavender top) or ACD (yellow top) Specimen Volume: 2 mL.
  - Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.
  - Specimen Stability Information: Ambient (preferred)/Refrigerate
  - Specimen Type: Retrieved DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube
  - Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow with an indication of volume and concentration of the DNA.
  - Specimen Stability Information: Frozen (preferred)/Refrigerate/Ambient
  - Specimen Type: Paraffin-embedded tissue block Specimen Volume: Entire block Additional Information: Tissue must demonstrate involvement by a hematologic neoplasm (eg, AML), not solid tumors.
  - Specimen Stability Information: Ambient
  - Specimen Type: Paraffin-embedded bone marrow aspirate clot Container/Tube: Paraffin block Specimen Volume: Entire block Additional Information: Tissue must demonstrate involvement by a hematologic neoplasm (eg, AML), not solid tumors.
  - Specimen Stability Information: Ambient

**Specimen Minimum Volume:**
- Blood, bone marrow: 1 mL
- Extracted DNA from blood or bone marrow: 50 microliters (mL) at 20 ng/mL
Transport Temperature:  
Varies 7 days

CPT Code Information: 81272-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, gastrointestinal stromal tumor [GIST], acute myeloid leukemia, melanoma), gene analysis, targeted sequence analysis (eg, exons 8, 11, 13, 17, 18)

Kiwi Fruit, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:  
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

CPT Code Information: 86003

Known 45,X, Mosaicism Reflex Analysis, FISH

Specimen Requirements: Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL  
Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

Specimen Minimum Volume: 2 mL

Transport Temperature:  
Whole blood Ambient (preferred)  
Refrigerated

CPT Code Information: 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

Known Variant Analysis-1 Variant

Specimen Requirements: Submit only 1 of the following specimen types: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 4 days/Refrigerated 14 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL
(microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated Prenatal Specimens Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Additional Information: A separate culture charge will be assessed under CULAF / Amniotic Fluid Culture for Genetic Testing. Specimen Type: Cultured amniocytes Container/Tube: T-25 flask Specimen Volume: 2 Full flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15-mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Additional Information: A separate culture charge will be assessed under CULFB / Fibroblast Culture for Genetic Testing. Specimen Type: Cultured chorionic villi Container/Tube: T-25 flasks Specimen Volume: 2 Full flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Whole Blood: 0.6 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81403

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**Known Variant Analysis-2 Variants**

**Specimen Requirements:** Submit only 1 of the following specimen types: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 4 days/Refrigerated 14 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated Prenatal Specimens Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Additional Information: A separate culture charge will be assessed under CULAF / Amniotic Fluid Culture for Genetic Testing. Specimen Type: Cultured amniocytes Container/Tube: T-25 flask Specimen Volume: 2 Full flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15-mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Additional Information: A separate culture charge will be assessed under CULFB / Fibroblast Culture for Genetic Testing. Specimen Type: Cultured chorionic villi Container/Tube: T-25 flasks Specimen Volume: 2 Full flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Whole Blood: 0.6 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81403 x 2
**Known Variant Analysis-3+ Variants**

**Specimen Requirements:** Submit only 1 of the following specimen types:
- **Whole blood**
  - Container/Tube: Lavender top (EDTA)
  - Specimen Volume: 3 mL
  - Collection Instructions: Send specimen in original tube.
  - Specimen Stability Information: Ambient (preferred) 4 days/Refrigerated 14 days
  - (microliters)
  - Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL.
  - 2. Include concentration and volume on tube.
  - Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated
- **Prenatal Specimens**
  - Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing.
  - Specimen Type: Amniotic fluid
  - Container/Tube: Amniotic fluid container
  - Specimen Volume: 20 mL
  - Specimen Stability Information: Refrigerated (preferred)/Ambient
- **Chorionic villi**
  - Container/Tube: 15-mL tube containing 15-mL of transport media
  - Specimen Volume: 20 mg
  - Specimen Stability Information: Refrigerated
  - Additional Information: A separate culture charge will be assessed under CULAF / Amniotic Fluid Culture for Genetic Testing.
- **Cultured amniocytes**
  - Container/Tube: T-25 flask
  - Specimen Volume: 2 Full flasks
  - Collection Instructions: Submit confluent cultured cells from another laboratory.
  - Specimen Stability Information: Ambient (preferred)/Refrigerated
- **Chorionic villi**
  - Container/Tube: T-25 flasks
  - Specimen Volume: 2 Full flasks
  - Collection Instructions: Submit confluent cultured cells from another laboratory.
  - Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Whole Blood: 0.6 mL
- Amniotic Fluid: 10 mL
- Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies

**CPT Code Information:** 81403 x 3 (up to x 5)

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**KPC (blaKPC) and NDM (blaNDM) in Gram-Negative Bacilli, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Klebsiella pneumoniae (KPC) or New Dehli metallo-beta-lactamase (NDM) DNA is unlikely. Supplies: Infectious Container, Large (T146) Collection Container/Tube: Slant Specimen Volume: Isolate Collection Instructions: 1. Isolate the bacteria. 2. Bacterial organism must be in pure culture, actively growing. Do not submit mixed cultures.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Refrigerated

**CPT Code Information:** 87798 x 2

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**KPC (blaKPC) and NDM (blaNDM) Surveillance, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by KPC or NDM DNA is not likely. Specimen source is required. Submit only 1 of the following specimens: Preferred: Specimen Type: Perianal, perirectal, rectal Collection Container/Tube: Culture transport swab Specimen Volume: Swab Acceptable: Specimen Type: Preserved Stool Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S) Specimen
Volume: Representative portion of stool

Specimen Minimum Volume: NA

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Frozen 7 days

CPT Code Information: 87798 x 2

KPND1 35207

KPC and NDM PCR (Bill Only)

Specimen Requirements: This test is for Billing Purposes Only. This is not an orderable test.

Transport Temperature:
Varies Varies

CPT Code Information: 87798 x 2

KD2T 65332

Krabbe Disease Second-Tier Newborn Screen, Blood Spot

Specimen Requirements: Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Collection Container/Tube: Preferred: Blood Spot Collection Card (T493) Acceptable: Ahlstrom 226 filter paper, Munktell filter paper, Whatman Protein Saver 903 paper, or blood collected in tubes containing heparin or EDTA and dried on filter paper. Specimen Volume: 3 blood spots Collection Instructions: 1. Completely fill at least 3 circles on the filter paper card (approximated 100-microliters blood per circle). 2. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: 2 blood spots

Transport Temperature:
Whole blood Ambient (preferred) 96 days
Frozen 96 days
Refrigerated 96 days

CPT Code Information: 82542-Psychosine; 81401-30-kb deletion;

KRABZ 35433

Krabbe Disease, Full Gene Analysis and Large (30 kb) Deletion, PCR

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogeneic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask
Specimen Volume: 1 Full T-75 or 2 full T-25 flasks
Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours
Specimen Type: Skin biopsy
Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch
Specimen Stability Information: Refrigerated (preferred)/Ambient
Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: Blood: 1 mL
Blood Spots: 3

Transport Temperature:
Varies

CPT Code Information: 81406 GALC (galactosylceramidase) (eg, Krabbe disease), full gene sequence; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

**KRASC**

**35469**

**KRAS Mutation Analysis, 7 Mutation Panel, Colorectal**

**Specimen Requirements:** Pathology report must accompany specimen in order for testing to be performed. Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Container/Tube: Slides Specimen Volume: 1 stained and 5 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 5 unstained, nonbaked slides with 5 micron-thick sections of the tumor tissue.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin-and-eosin and 5 unstained, nonbaked slides (5-microns thick sections) of the tumor tissue.

**Transport Temperature:**
Varies
(Preferred)
Frozen
Refrigerated

**CPT Code Information:** 81275-KRAS (v-Ki-ras2 Kirsten rat sarcoma viral oncogene) (eg, carcinoma) gene analysis, variants in codons 12 and 13 ; ; Additional Test; 88381-Microdissection, manual;

**KRASO**

**35468**

**KRAS Mutation Analysis, 7 Mutation Panel, Other (Non-Colorectal)**

**Specimen Requirements:** Pathology report must accompany specimen in order for testing to be
performed. Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Container/Tube: Slides Specimen Volume: 1 stained and 5 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 5 unstained, nonbaked slides with 5-micron thick sections of the tumor tissue.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 5 unstained, nonbaked slides (5-microns thick sections) of the tumor tissue.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81275-KRAS (v-Ki-ras2 Kirsten rat sarcoma viral oncogene) (eg, carcinoma) gene analysis, variants in codons 12 and 13 ; ; Additional Test; 88381-Microdissection, manual;

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**LACO**

**62905**

**Lacosamide, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose or at least 12 hours after last dose. 2. Spin down and separate serum from cells within 2 hours of draw. 3. Remove serum from serum gel tube if applicable.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80299

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**LD I**

**8679**

**Lactate Dehydrogenase (LD) Isoenzymes, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL divided into 2 tubes each containing 1 mL

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
- Serum Ambient (preferred) 7 days
- Refrigerated 48 hours

**CPT Code Information:** 83615-LD; 83625-LD isoenzymes;

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**LDBF**

**8022**

**Lactate Dehydrogenase (LD), Body Fluid**
**Specimen Requirements:** Collection Container/Tube: Sterile container Submission Container/Tube: Plastic container Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid: Ambient (preferred) 7 days
- Refrigerated: 48 hours

**CPT Code Information:** 83615

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**Lactate Dehydrogenase (LD), Serum**

**Specimen Requirements:** Container/Tube:Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum: Ambient (preferred) 7 days
- Frozen: 30 days
- Refrigerated: 48 hours

**CPT Code Information:** 83615

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**Lactate, Body Fluid**

**Specimen Requirements:** Specimen Type: Spinal fluid Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: 1. Centrifuge to remove any cellular material. 2. Indicate specimen source. Spinal fluid is the only acceptable source.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid: Frozen (preferred) 30 days
- Refrigerated: 14 days

**CPT Code Information:** 83605

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**Lactate, Plasma**

**Specimen Requirements:** Collection Container/Tube: Grey top (potassium oxalate/sodium fluoride) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Collection must be at least 1 mL in a 2-mL draw tube or at least 2 mL in a 4-mL draw tube. 2. Spin down and separate plasma from cells. Additional Information: Patient's age and sex is required.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Plasma: NaFl-KOx Frozen 30 days
CPT Code Information: 83605

**LACS1 601685**

**Lactate, Plasma**

**Specimen Requirements:** Container/Tube: Grey top (potassium oxalate/sodium fluoride)  
Specimen Volume: 0.5 mL Collection Instructions: 1. Collection must be at least 1 mL in a 2-mL draw tube or at least 2 mL in a 4-mL draw tube.  2. Spin down and separate plasma from cells.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**  
Plasma NaFl-KOx Refrigerated (preferred)  14 days  
Ambient  8 hours

CPT Code Information: 83605

**LASF1 601821**

**Lactic Acid, Spinal Fluid**

**Specimen Requirements:** Specimen Type: Spinal fluid Container/Tube: Sterile container  
Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**  
CSF Frozen (preferred)  60 days  
Refrigerated  24 hours  
Ambient  3 hours

CPT Code Information: 83605

**FLACF 57827**

**Lactoferrin, Fecal by ELISA**

**Specimen Requirements:** Preferred Specimen Type: Unpreserved stool Supplies: Sterile stool container Container/Tube: Sterile stool container Specimen Volume: 5 g Specimen Stability Information: Refrigerated Collection Instructions: 5 grams fresh, unpreserved stool or stool preserved in Cary-Blair transport media (Agar Swab is not acceptable), shipped refrigerate in a plastic leak-proof container.

**Specimen Minimum Volume:** 1 gm

**Transport Temperature:**  
Fecal Refrigerated (preferred)  14 days  
Frozen  14 days

CPT Code Information: 83630

**LACTO 70625**

**Lactotransferrin IHC, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 637
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**FLBAE 57572**

**Ladybeetle Multicolored Asian (Harmonia axyridis) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days

- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

**LAMQ 82682**

**Lamb’s Quarter, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

- Frozen 90 days

**CPT Code Information:** 86003

**LAMB 82699**

**Lamb, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 638
Lambda Light Chain (Lambda-C) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25-mm x 75-mm x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 86003

Lamellar Body Count, Amniotic Fluid

**Specimen Requirements:** Container/Tube: Amniotic fluid container or plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Do not centrifuge 2. Amniotic specimens must be blood and meconium free.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**

- Amniotic Fld Refrigerated (preferred) 28 days
- Ambient 7 days

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Lamotrigine, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. For sustained-release formulations ONLY, draw blood a minimum of 12 hours after last dose. 3. Spin down within 2 hours of draw. 4. Remove serum from serum gel tube if applicable.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80175
Langerin Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Langust (Lobster), IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

LAT Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Latex, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x
number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

Frozen 90 days

**CPT Code Information:** 86003

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**NRHDL**

29552

**LDL a-High Density Cholesterol**

**Specimen Requirements:** Only orderable as part of a profile. For more information see LDLD / LDL Cholesterol (Beta-Quantification), Serum.

**Transport Temperature:**
Serum Refrigerated
(preferred)

Frozen

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**LDLD**

89652

**LDL Cholesterol (Beta-Quantification), Serum**

**Specimen Requirements:** Patient Preparation: Patient must not consume any alcohol for 24 hours before the specimen is drawn. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL Additional Information: Indicate patient’s age and sex.

**Specimen Minimum Volume:** <2 years: 1 mL; > or =2 years: 2 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 10 days

Frozen

**CPT Code Information:** 83701-Lipoprotein, blood; high resolution fractionation and quantitation of lipoproteins including lipoprotein subclasses when performed (eg, electrophoresis, ultracentrifugation)

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**FLLDLD**

75160

**LDL Cholesterol, Direct**

**Specimen Requirements:** Draw blood in a serum gel tube(s), plain red-top tube is also acceptable. Spin down and send 1 mL of serum refrigerate.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 5 days

Frozen 30 days

**CPT Code Information:** 83721

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**PBUO**

48557

**Lead Occupational Exposure, Random, Urine**

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Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Specimen Minimum Volume: 1.5 mL

Transport Temperature:
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

CPT Code Information: 83655; 82570;

PBZP 42390

Lead Profile Occupational Exposure, Blood

Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Metal Free (Lead only) EDTA Tube, 3 mL (T615) Microtainer (EDTA) Tube, 0.5 mL (T174) If ordering the EDTA trace element Vacutainer tube from BD, order catalog #368381 Container/Tube: Preferred: Royal blue-top BD Vacutainer Plus with EDTA blood collection tube (T183) Acceptable: Tan-top (lead only) BD Vacutainer Plus with EDTA blood collection tube (T615) or BD Microtainer with EDTA (T174) or royal blue-top Monoject trace element blood collection tube Specimen Volume: 2 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Whole blood Refrigerated 28 days

CPT Code Information: 83655-Lead; 84202-Protoporphyrin, RBC; Quantitative;

PBU 8600

Lead, 24 Hour, Urine

Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Lead, Capillary, with Demographics, Blood

**Specimen Requirements:** Patient Preparation: - High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. - CDC recommends venous collection of samples for lead testing. - Capillary lead testing is acceptable for pediatrics and patients with phlebotomy considerations, but capillary blood collection may be more susceptible to contamination. Elevated capillary blood levels must be confirmed with a venous lead blood test.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Whole blood: Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 83655

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Lead, Hair

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g

Collection Instructions: Prepare and transport specimen per the instructions in the kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. Additional Information: If known, indicate source of hair (axillary, head, or pubic).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**
- Hair: Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 83655

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Lead, Nails

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g

Collection Instructions: 1. Prepare and transport specimen per the instructions in the kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. 2. Clippings should be taken from
all 10 fingernails or toenails. Additional Information: If known, indicate source of nails (fingernails or toenails).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**
- Nail Ambient (preferred)
  - Frozen
  - Refrigerated

**CPT Code Information:** 83655

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**PBDV**

**Lead, Venous, with Demographics, Blood**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Metal Free (Lead only) EDTA Tube, 3mL (T615) If ordering the trace element blood collection tube from BD, order catalog #368381 Container/Tube: Preferred: Royal blue-top BD Vacutainer Plus with EDTA blood collection tube (T183) Acceptable: Tan-top (lead only) BD Vacutainer Plus with EDTA blood collection tube (T615) Specimen Volume: 2 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 83655

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**PBRCR**

**Lead/Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days
**Lead/Creatinine Ratio, Urine**

**Specimen Requirements:** Only orderable as part of a profile. See PBRCR / Lead/Creatinine Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with Reflex, Urine.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

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**Leflunomide Metabolite (Teriflunomide), Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Draw blood no sooner than 12 hours (trough value) after last dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Red Ambient (preferred) 28 days
- Frozen 28 days
- Refrigerated 28 days

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**Legionella Antigen, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 0.5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. 3. Excessively bloody or very turbid specimens containing protein, cells, or particulates will be cancelled. They can inhibit the function of the test. 4. Centrifuging to remove particulates is not approved. 5. Specimens with any dyes or unnatural color are not acceptable and will be canceled.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
  - Frozen 14 days
  - Ambient 24 hours

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**Legionella Culture**

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CPT Code Information: 83655; 82570;
**Specimen Requirements:** Specimen Type: Bronchial washing, bronchoalveolar lavage, bronchus fluid, chest fluid, chest tube drainage, empyema, endotracheal specimen, fresh lung tissue, heart valves, induced sputum, lingula (lung), lung biopsy, pericardial fluid or tissue, pleura, pleural fluid, protected catheter brush, sputum, thoracentesis fluid, tracheal secretion, transbronchial biopsy, or transtracheal aspirate Container/Tube: Sterile container Specimen Volume: Entire specimen

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Varies Refrigerated 48 hours

**CPT Code Information:** 87081-Legionella culture; 87077-Ident by MALDI-TOF mass spec (if appropriate); 87153-Aerobe ident by sequencing (if appropriate); 87176-Tissue processing (if appropriate);

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**SLEG 8122**

**Legionella pneumophila (Legionnaires Disease), Antibody, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86713

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**LEGRP 89564**

**Legionella species, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Legionella DNA is unlikely. Specimen Type: Respiratory Sources: Sputum, tracheal secretions/aspirates, transtracheal aspirate, bronchial washing/aspirate, bronchoalveolar lavage, lung fluid or pleural fluid Container/Tube: Sterile Specimen Volume: 1 mL Specimen Type: Fresh tissue or biopsy Sources: Lung tissue Container/Tube: Sterile container Specimen Volume: Entire collection

**Specimen Minimum Volume:** Fluid: 0.5 mL Tissue: 5 mm(3)

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87801

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**LEIS 86219**

**Leishmaniasis (Visceral) Antibody, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.2 mL

**Specimen Minimum Volume:** 0.1 mL
**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86717

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**Lemon IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

**CPT Code Information:** 86001

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**Lemon, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**Lentil IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

**CPT Code Information:** 86001
Lentil, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Lepidoglyphus destructor, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Leptin

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial. Note: EDTA (lavender-top) plasma is an acceptable alternate.

**Specimen Minimum Volume:** 0.5 mL NOTE: Minimum volume does not allow for repeat analysis.

**Transport Temperature:**
- Serum Frozen (preferred) 200 days
- Ambient 48 hours
- Refrigerated 48 hours

**CPT Code Information:** 83520

Leptospira, IgM, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.3 mL Collection Instructions: Serum should be collected according to standard practices.
Acute and convalescent specimens obtained to determine seroconversion should be collected 2 or more weeks apart.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
  - Frozen 30 days

**CPT Code Information:** 86720

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**Lettuce IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

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**Lettuce, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**Leukemia and Lymphoma Phenotyping, Technical Only**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: Sodium heparin, EDTA Specimen Volume: 10 mL Slides: Include 5 to 10 unstained blood smears, if possible. Collection Instructions: 1. Do not transfer blood to other containers. 2. Label specimen as blood. Specimen Stability Information: Ambient <96 hours/Refrigerated < or =96 hours Specimen Type: Bone marrow Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: Sodium heparin, EDTA Specimen Volume: 1-5 mL Slides: Include 5 to 10 unstained bone marrow aspirate smears, if possible. Collection Instructions: 1. Submission of bilateral specimens is not required. 2. Label specimen as bone marrow. Additional Information: If cytogenetic tests are also desired when drawing LCMS /
Leukemia/Lymphoma Immunophenotyping by Flow Cytometry, an additional specimen should be submitted. It is important that the specimen be obtained, processed, and transported according to instructions for the other required test. Specimen Stability Information: Ambient <96 hours/Refrigerated < or = 96 hours Specimen Type: Fluid Sources: Serous effusions, pleural, pericardial, or abdominal (peritoneal fluid) Container/Tube: Body fluid container Specimen Volume: 20 mL Collection Instructions: 1. If possible, fluids other than spinal fluid should be anticoagulated with heparin (1 U/mL of fluid). 2. The volume of fluid necessary to phenotype the lymphocytes or blasts in serous effusions depends upon the cell count in the specimen. Usually 20 mL of pleural or peritoneal fluid is sufficient. Smaller volumes can be used if there is a high cell count. 3. Label specimen with fluid type. Specimen Stability Information: Refrigerated <72 hours/Ambient < or = 72 hours Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 1-1.5 mL Collection Instructions: 1. An original cytospin preparation (preferably unstained) must be included with the spinal fluid specimen so correlative morphologic evaluation can occur. 2. The volume of fluid necessary to phenotype the lymphocytes or blasts in spinal fluid depends upon the cell count in the specimen. A cell count should be determined and submitted with the specimen. Usually 1 to 1.5 mL of spinal fluid is sufficient. Smaller volumes can be used if there is a high cell count. If cell count is <10 cells/mL, a larger volume of spinal fluid may be required. When cell counts drop below 5 cells/mL, the immunophenotypic analysis may not be successful. 3. Label specimen as spinal fluid. Specimen Stability Information: Refrigerated <48 hours/Ambient < or = 48 hours Supplies: Hank’s Solution (T132) Specimen Type: Tissue Container/Tube: Sterile container with 15 mL of tissue culture medium (eg, Hank’s balanced salt solution [T132], RPMI, or equivalent) Specimen Volume: 5 mm(3) or larger biopsy Specimen Stability Information: Ambient <96 hours/Refrigerated < or = 96 hours Collection Instructions: 1. Send intact specimen (do not mince). 2. Specimen cannot be fixed.

**Specimen Minimum Volume:** Blood: 3 mL Bone Marrow, Spinal Fluid: 1 mL Fluid from Serous Effusions: 5 mL Tissue: 1 mm(3) or larger biopsy

**Transport Temperature:** Varies Varies

**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each); Additional CPTs may be added if consultative help is needed with the case, or algorithm dictates Mayo consultant involvement.; 88187-Flow cytometry interpretation, 2 to 8 markers (if appropriate); 88188-Flow cytometry interpretation, 9 to 15 markers (if appropriate); 88189-Flow cytometry interpretation, 16 or more markers (if appropriate);
must be included with the spinal fluid specimen so correlative morphologic evaluation can occur. 2. The volume of fluid necessary to phenotype the lymphocytes or blasts in spinal fluid depends upon the cell count in the specimen. A cell count should be determined and submitted with the specimen. Usually 1 to 1.5 mL of spinal fluid is sufficient. Smaller volumes can be used if there is a high cell count. If cell count is <10 cells/mL, a larger volume of spinal fluid may be required. When cell counts drop below 5 cells/mL, the immunophenotypic analysis may not be successful. 3. Label specimen as spinal fluid.

**Specimen Stability Information:** Refrigerated <48 hours/Ambient < or =48 hours

**Specimen Minimum Volume:** Blood: 3 mL Bone Marrow, Spinal Fluid: 1 mL Fluid from Serous Effusions: 5 mL

**Transport Temperature:**

- Varies

**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker x 1; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each) ; 88187-Flow Cytometry Interpretation, 2 to 8 Markers (if appropriate); 88188-Flow Cytometry Interpretation, 9 to 15 Markers (if appropriate); 88189-Flow Cytometry Interpretation, 16 or More Markers (if appropriate);

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**Leukemia/Lymphoma Immunophenotyping by Flow Cytometry, Tissue**

**Specimen Requirements:** Supplies: Hank's Solution (T132) Container/Tube: Sterile container with 15 mL of tissue culture medium (eg. Hank's balanced salt solution [T132], RPMI, or equivalent) Specimen Volume: 5 mm(3) or larger biopsy Collection Instructions: 1. Collect fine-needle aspirate. 2. Send intact specimen (do not mince). 3. Specimen cannot be fixed.

**Specimen Minimum Volume:** 1 mm(3)

**Transport Temperature:**

- Tissue Refrigerated (preferred)
- Ambient

**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker x 1; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each) ; 88187-Flow Cytometry Interpretation, 2 to 8 Markers (if appropriate); 88188-Flow Cytometry Interpretation, 9 to 15 Markers (if appropriate); 88189-Flow Cytometry Interpretation, 16 or More Markers (if appropriate);

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**Leukocyte Adhesion Deficiency Type 1, CD11a/CD18 and CD11b/CD18 Complex Immunophenotyping, Blood**

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Lavender top (EDTA) Specimen Volume: 5 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**

Whole Blood EDTA  Ambient 72 hours

**CPT Code Information:** 88184; 88185 x 2;
**LECT2 70497**

**Leukocyte Cell-Derived Chemotaxin 2 (LECT2), Immunostains Without Interpretation**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**LTE4 62530**

**Leukotriene E4, Urine**

**Specimen Requirements:** Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections. Submit only 1 of the following specimens: Preferred: 24 hour urine collection Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. No preservative. Acceptable: Random collection Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 7 days

<table>
<thead>
<tr>
<th>Temperature</th>
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<td>Frozen</td>
<td>30 days</td>
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<td>Ambient</td>
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</tbody>
</table>

**CPT Code Information:** 82542

**LEV1P 113309**

**Level 1 Gross only (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88300

**LEV2P 113310**

**Level 2 Gross and microscopic (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
**LEV3P 113311**  
**Level 3 Gross and microscopic (Bill Only)**  
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.  
**Transport Temperature:**  
Varies Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88302

**LEV4P 113312**  
**Level 4 Gross and microscopic (Bill Only)**  
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.  
**Transport Temperature:**  
Varies Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88304

**LV4RP 113313**  
**Level 4 Gross and Microscopic, RB (Bill Only)**  
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.  
**Transport Temperature:**  
Varies Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88305

**LEV5P 113314**  
**Level 5 Gross and microscopic (Bill Only)**  
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.  
**Transport Temperature:**  
Varies Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88305
LEV6P 113315

**Level 6 Gross and microscopic (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
- Refrigerated (preferred)
- Ambient

**CPT Code Information:** 88307

LEVE 83140

**Levetiracetam, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. For sustained-release formulations ONLY, draw blood a minimum of 12 hours after last dose. 3. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 88309

FLEVO 90333

**Levodopa, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 2 mL of serum frozen in a preservative-free plastic vial. Specimen must be frozen immediately or results will be compromised. Plasma Draw blood in a lavender-top tube(s) or a pink-top tube(s). (Plasma gel tube is not acceptable.) Spin down and send 2 mL of EDTA plasma frozen in a preservative-free plastic vial. Specimen must be frozen immediately or results will be compromised.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Varies
  - Frozen 30 days

**CPT Code Information:** 80177

LIDO 37045

**Lidocaine, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.
**Specimen Minimum Volume:** 0.25 mL  
**Transport Temperature:**  
Serum Red  Refrigerated (preferred)  14 days  
Ambient  14 days  
Frozen  14 days  

**CPT Code Information:** 80176

**LMO2**  
**LIM Domain Only 2 (LMO2) Immunostain, Technical Component Only**  
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block  
**Transport Temperature:**  
TECHONLY Ambient (preferred) Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**LIME**  
**Lime, IgE**  
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.  
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space  
**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen  90 days  

**CPT Code Information:** 86003

**FLALA**  
**Limulus Amebocyte Lysate (Endotoxin)**  
**Specimen Requirements:** 5 mL aqueous solution used in patient management. Send solution frozen in non-pyrogenic, plastic container. NOTE: 1. Submit name of aqueous solution, and the diluent if applicable. 2. Body fluids are not acceptable. 3. Glass vials are not acceptable.  
**Specimen Minimum Volume:** 3 mL  
**Transport Temperature:**  
Varies Frozen 30 days

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**LIND**

**Linden, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**LINS**

**Linseed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**LPBF1**

**Lipase, Body Fluid**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid Refrigerated (preferred) 30 days
- Frozen 30 days
- Refrigerated 21 days

**CPT Code Information:** 83690

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**FLIPR**

**Lipase, Random Urine**

**Specimen Requirements:** 2 mL random urine, no preservatives, in a sterile screw capped container, shipped ambient. Note: 1) Also acceptable, 24 hour or first void clean catch. 2) Indicate on container and request form collection duration.
Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Ambient (preferred) 7 days
Refrigerated 30 days
Frozen 4 days

CPT Code Information: 83690

LPS1
48293

Lipase, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top
Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tube must be centrifuged within 2 hours of draw time. 2. Red-top tube must be centrifuged and aliquoted within 2 hours of draw time.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Serum Refrigerated (preferred) 21 days
Frozen 90 days

CPT Code Information: 83690

BFLAC
34622

Lipid Analysis, Body Fluid


Specimen Minimum Volume: 2.5 mL

Transport Temperature:
Body Fluid Frozen (preferred) 30 days
Refrigerated 7 days
Ambient 24 hours

CPT Code Information: 82664-Electrophoretic technique, not elsewhere specified (Chylomicrons and lipoproteins); 84311-Spectrophotometry, analyte not specified (Cholesterol); 84478-Triglycerides;

LPSC
8053

Lipid Panel, Fasting

Specimen Requirements: Patient Preparation: 1. Fasting overnight (12 hours) 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tube must be centrifuged within 2 hours of draw time. 2. Red-top tube must be centrifuged and aliquoted within 2 hours of draw time.

Specimen Minimum Volume: 0.5 mL
**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 30 days

**CPT Code Information:** 80061-Lipid panel (if all 3 performed); 82465-Cholesterol, total (if all 3 are not performed); 84478-Triglycerides (if all 3 are not performed); 83718-Cholesterol, HDL (if all 3 are not performed);

**LNF1**

**Lipid Panel, Non-Fasting, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tube must be centrifuged within 2 hours of draw time. 2. Red-top tube must be centrifuged and aliquoted within 2 hours of draw time.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 30 days

**CPT Code Information:** 80061-Lipid panel (if all 3 performed); 82465-Cholesterol, total (if all 3 are not performed); 84478-Triglycerides (if all 3 are not performed); 83718-Cholesterol, HDL (if all 3 are not performed);

**LPAWS**

**Lipoprotein (a) Cholesterol, Serum**

**Specimen Requirements:** Patient Preparation: Fasting (8 hours before collection and abstain from alcohol for 24 hours before collection) Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.4 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 60 days

**CPT Code Information:** 83700

**LIPA**

**Lipoprotein (a), Serum**

**Specimen Requirements:** Patient Preparation: Fasting-overnight (12-14 hours) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 7 days
Lipoprotein Metabolism Profile

**Specimen Requirements:** Patient Preparation: 1. Fasting-overnight (12-14 hours) 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 5 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 60 days

**CPT Code Information:** 80061-Lipid panel (includes: HDL [CPT Code 83718], total cholesterol [CPT Code 82465], and triglycerides [CPT Code 84478]); 82172-Apolipoprotein B; 83700-Lp(a) cholesterol electrophoresis;

Lithium, Serum

**Specimen Requirements**
- Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Draw blood 8 to 12 hours after last dose (trough specimen). 2. Serum gel tubes should be centrifuged within 2 hours of collection. 3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Additional Information: Peak serum concentrations do not correlate with symptoms.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 80178

Liver Fatty Acid-Binding Protein (L-FABP) Immunostain, Technical Component Only

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
Liver Profile, Serum

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Amber vial (T192) Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated 7 days

**CPT Code Information:** 80076; 82247; 82248; 84450; 84460; 84075; 82040; 84155;

Liver/Kidney Microsome Type 1 Antibodies, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days
Frozen 21 days

**CPT Code Information:** 86376

Lobster, IgE

**Specimen Requirements**
Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

Locust Black (Robinia pseudoacacia) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

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Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

Long QT Syndrome Multi-Gene Panel, Blood

Specimen Requirements: Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL
Collection Instructions: Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Whole Blood EDTA Ambient (preferred)
Refrigerated

CPT Code Information: 81403; 81404; 81406 x 2; 81407; 81479;

Lorazepam (Ativan), Serum

Specimen Requirements: Submit only 1 of the following specimens: Plasma: Specimen Type: Plasma Container/Tube: Green Top Specimen Volume: 2 mL Collection Instructions: Draw blood in a green-top sodium heparin tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL of plasma refrigerated in a plastic vial. Serum: Specimen Type: Serum Container/Tube: Red Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80346; G0480 (if appropriate);

Low-Grade Fibromyxoid Sarcoma (LGFMS), 16p11.2 (FUS or TLS) Rearrangement, FISH, Tissue

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

Specimen Minimum Volume: Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.
Transport Temperature:
Tissue Ambient (preferred)
Refrigerated

CPT Code Information: 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 – DNA probe, each; each additional probe set (if appropriate); 88271x1 – DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 – DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 – DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 – Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

LOX 80462
Loxapine (Loxitaner) and 8-Hydroxyloxapine
Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a green-top tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80342;

FLSDU 75369
LSD Trace Analysis, Urine
Specimen Requirements: Send 1 mL from a random urine collection. Send specimen refrigerated in a plastic (preservative-free) container. Note: Specimen must be light protected.
Specimen Minimum Volume: 0.45 mL
Transport Temperature:
Urine Refrigerated (preferred) 30 days
Ambient 30 days
Frozen

CPT Code Information: 80323

LUNGR 65143
Lung Cancer Rearrangement Testing, Tumor
Specimen Requirements: Specimen Type: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable Slides: 1 Stained and 10 unstained slides
Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides
(nonbaked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology slide (direct smears or ThinPrep) Slides: 1-2 Slides Collection Instructions: Submit 1-2 slides stained and coverslipped with at least 5,000 total nucleated cells Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 810 unstained slides (nonbaked, charged slides preferred) with 5-micron-thick sections of the tumor tissue with at least 6 mm(2) area of tissue (can be over multiple slides from one tissue block) and at least 20% tumor cells

**Transport Temperature:**

- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81405-RET; 81479-(ROS1, ALK, NTKR1);

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**LCAF 35282**

**Lung Cancer, ALK (2p23) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Slides: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Three consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**EGFRR 35406**

**Lung Cancer, EGFR with ALK Reflex, Tumor**

**Specimen Requirements:** Pathology report must accompany specimen in order for testing to be performed. Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Container/Tube: Slides Specimen Volume: 12 unstained, positively charged, unbaked slides or 2 hematoxylin and eosin-stained slides (will not be returned) and 10 unstained, positively charged, unbaked slides Collection Instructions: Submit 12 unstained, positively charged, unbaked slides cut at 5-microns or 2 hematoxylin and eosin-stained slides and 10 unstained, positively charged, unbaked slides with 5-micron thick sections of the tumor tissue.
**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded tissue block (preferred) or 2 slides stained with hematoxylin-and-eosin and 10 unstained, positively charged, unbaked slides with 5-micron thick sections of the tumor tissue.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Frozen
  - Refrigerated

**CPT Code Information:** EGFR Gene, Mutation Analysis, Tumor; 81235-EGFR (epidermal growth factor receptor) (eg, non-small cell lung cancer) gene analysis, common variants (eg, exon 19 deletions, L858R, T790M, G719S, L861Q); ; Additional Tests; ; Slide Review; 88381-Microdissection, manual; ; Reflexed Tests (if appropriate);; Lung Cancer, ALK (2p23), FISH, Ts; 88271 x 2-DNA Probe (if appropriate); 88274-Interphase in situ hybridization (if appropriate); 88291-Interpretation and report (if appropriate);

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**Lung Cancer, RET (10q11) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue
- Preferred: Tissue block
- Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides
- Slides: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 – Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**Lung Cancer, ROS1 (6q22) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue
- Preferred: Tissue block
- Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides
- Slides: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue
Tissue Ambient  
(preferred)

Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**Lung Cancer-Targeted Gene Panel with Rearrangement, Tumor**

**Specimen Requirements:** Preferred: Specimen Type: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable: Slides: 1 stained and 10 unstained slides Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides (non-baked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology slide (direct smears or ThinPrep) Slide: 1-2 slides Collection Instructions: Submit 1-2 slides stained and coverslipped with at least 5,000 total nucleated cells Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 8 unstained slides (non-baked, charged slides preferred) with 5-microns thick sections of the tumor tissue with at least 6 mm(2) area of tissue (can be over multiple slides from one tissue block) and at least 20% tumor cells

**Transport Temperature:**

Variies Ambient  
(preferred)

Frozen

Refrigerated

**CPT Code Information:** 81445-Targeted genomic sequence analysis panel, solid organ neoplasm; Slide Review; 88381-Microdissection, manual;

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**Lung Cancer-Targeted Gene Panel, Tumor**

**Specimen Requirements:** Preferred: Specimen Type: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable: Slides: 1 stained and 10 unstained slides Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides (nombaked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology slide (Direct smears or ThinPrep) Slides: 1-2 slides Collection Instructions: Submit 1-2 slides stained and coverslipped with at least 5,000 total nucleated cells Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 8 unstained slides (non-baked, charged slides preferred) with 5-microns thick sections of the tumor tissue with at least 6 mm(2) area of tissue (can be over multiple slides from one tissue block) and at least 20% tumor cells
Transport Temperature:
Varies Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 81445-Targeted genomic sequence analysis panel, solid organ neoplasm; Slide Review; 88381-Microdissection, manual;

**LUPN**

82613 Lupin, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**FLUPV**

91714 Lupus Anticoagulant Evaluation with Reflex

**Specimen Requirements:** 3 mL platelet-poor plasma, shipped frozen. Draw blood into a 3.2% sodium citrate (light blue-top) tube. Centrifuge for 15 minutes at 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Plasma must be free of platelets (<10,000/uL). Freeze immediately.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma Na Cit Frozen 90 days

CPT Code Information: 85613/ Russell viper venom time (includes venom); diluted; 85730/ Thromboplastin time, partial (PTT); plasma; 85598/ Platelet neutralization (Hexagonal Phase Confirm) â€“ (if appropriate); 85597/ Platelet neutralization (dRVVT Confirm) â€“ (if appropriate); 85613/dRVVT 1:1 Dilution (if appropriate); 85670/Thrombin Clotting Time (if appropriate);

**LUPPR**

83092 Lupus Anticoagulant Profile

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Patient should not be receiving Coumadin or heparin. If so, please note. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 5 mL in 5 plastic vials each containing 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimens immediately at or below -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority...
specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial. 4. If multiple coagulation profiles are ordered, each profile must be on a separate order.

**Specimen Minimum Volume:** 4 mL in 4 plastic vials each containing 1 mL

**Transport Temperature:**

Plasma Na Cit Frozen 14 days

**CPT Code Information:**

- 85610-PT; 85613-DRVVT; 85730-APTT; 85210-Factor II (if appropriate); 85220-Factor V (if appropriate); 85230-Factor VII (if appropriate); 85240-Factor VIII (if appropriate); 85250-Factor IX (if appropriate); 85260-Factor X (if appropriate); 85270-Factor XI (if appropriate); 85280-Factor XII (if appropriate); 85335-Fibronectin (if appropriate); 85366-Soluble fibrin monomer (if appropriate); 85379-D-dimer (if appropriate); 85384-Fibrinogen (if appropriate); 85390-26-Special coagulation interpretation (if appropriate); 85597-Platelet neutralization for lupus inhibitor (if appropriate); 85598-Staclot LA (if appropriate); 85611-PT mix 1:1 (if appropriate); 85613-DRVVT mix (if appropriate); 85613-DRVVT confirmation (if appropriate); 85635-Reptilase time (if appropriate); 85670-Thrombin time (if appropriate); 85732-APTT mix 1:1 (if appropriate);

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### LUTHI 70498

**Luteinizing Hormone (LH) Beta Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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### LHPED 62999

**Luteinizing Hormone (LH), Pediatrics, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.25 mL Collection Instructions: 1. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection 2. Serum gel tubes should be centrifuged within 2 hours of collection.

**Specimen Minimum Volume:** 0.13 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 83002

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### LH 602752

**Luteinizing Hormone (LH), Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take
multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged and aliquoted within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 24 hours

**CPT Code Information:** 83002

**LNBAB 63502**

**Lyme Central Nervous System Infection IgG with Antibody Index Reflex, Serum and Spinal Fluid**

**Specimen Requirements:** Both spinal fluid (CSF) and serum are required for this test. CSF and serum must be collected within 24 hours maximum of each other. Specimen Type: Spinal Fluid Collection Container/Tube: Sterile vial Specimen Volume: 1.5 mL Collection Instructions: 1. A spinal fluid sample of 1.5 mL needs to be collected within 24 hours of the serum specimen, preferably at the same time. 2. Label vial as spinal fluid or CSF. 3. CSF aliquot should be from the second, third, or fourth CSF vial collected during the lumbar puncture. - Do not submit CSF from the first vial due to the possibility of blood contamination. 4. Band specimens together. Specimen Type: Serum Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1.5 mL Collection Instructions: 1. A serum sample of 1.5 mL needs to be collected within 24 hours of the spinal fluid specimen, preferably at the same time. 2. Label as serum. 3. Band specimens together.

**Specimen Minimum Volume:** CSF: 1.2 mL Serum: 1.2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 11 days
- Frozen 35 days
- Serum Refrigerated (preferred) 11 days
- Frozen 35 days

**CPT Code Information:** 86618-Lyme spinal fluid; 86618 x 2-Lyme, Serum and spinal fluid if applicable for Antibody Index; 82040-Albumin, serum if applicable for Antibody Index; 82042-Albumin, spinal fluid if applicable for Antibody Index; 82784 x 2-IgG, serum and spinal fluid if applicable for Antibody Index;

**LNBAI 63249**

**Lyme CNS Infection IgG, Antibody Index**

**Specimen Requirements:** Only orderable as part of a profile. For more information see LNBAB / Lyme CNS Infection IgG with Antibody Index Reflex.

**Specimen Minimum Volume:** Only orderable as part of a profile. For more information see LNBAB / Lyme CNS Infection IgG with Antibody Index Reflex.

**Transport Temperature:**
- CSF Refrigerated (preferred) 11 days
Frozen 35 days

**CPT Code Information:** 86618 x 2; 82040; 82042; 82784 x 2;

**FZ003 33037**

**Lyme Disease Antibody Index**

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 7 days

**CPT Code Information:** See profile FBBAB

**LYWB 9535**

**Lyme Disease Antibody, Immunoblot, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel Acceptable: Red top
- Specimen Volume: 0.75 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 30 days

**CPT Code Information:** 86617 x 2

**ELYME 65417**

**Lyme Disease European Antibody Screen, Serum**

**Specimen Requirements:**
- Supplies: Aliquot Tube, 5 mL (T465) Collection
- Preferred: Serum gel Acceptable: Red top Submission
- Container/Tube: 5-mL aliquot tube (T465)
- Specimen Volume: 0.5 mL Pediatric: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 10 days
- Frozen 30 days

**CPT Code Information:** 86618; 86617 x 2 - Lyme Disease European Immunoblot, S (if appropriate);

**ELYMI 65418**

**Lyme Disease European Immunoblot, Serum**

**Specimen Requirements:** Only orderable as a reflex. For more information see ELYME / Lyme Disease European Antibody Screen, Serum.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
**LYME**

**Lyme Disease Serology, Serum**

**Specimen Requirements:**
- Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube:
  - Preferred: Serum gel
  - Acceptable: Red top
- Submission Container/Tube: 5-mL aliquot tube (T465)
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 10 days
- Frozen 30 days

**CPT Code Information:** 86617 x 2

**PBORR**

**Lyme Disease, Molecular Detection, PCR**

**Specimen Requirements:**
- Submit only 1 of the following specimens:
  - Specimen Type: Spinal fluid
    - Container/Tube: Sterile vial
    - Specimen Volume: 1 mL
  - Specimen Type: Synovial fluid
    - Container/Tube: Sterile vial
    - Specimen Volume: 1 mL
  - Specimen Type: Tissue (fresh only)
    - Sources: Skin or synovial biopsy
    - Container/Tube: Sterile container with normal saline
    - Specimen Volume: Approximately 4 mm³

**Collection Instructions:**
1. Submit only fresh tissue.
2. Skin biopsies: a. Wash biopsy site with an antiseptic soap. Thoroughly rinse area with sterile water. Do not use alcohol or iodine preparations. A local anesthetic may be used. b. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis. 3. Label specimen with source of tissue.

**Specimen Minimum Volume:**
- Spinal Fluid, Synovial Fluid: 0.3 mL
- Tissue: NA

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87476; 87798 x 2

**PBORB**

**Lyme Disease, Molecular Detection, PCR, Blood**

**Specimen Requirements:**
- Container/Tube: Lavender top (EDTA)
- Specimen Volume: 1 mL

**Forms:**
If not ordering electronically, complete, print, and send a Microbiology Test Request Form (T244) with the specimen (http://www.mayomedicallaboratories.com/it-mmfiles/microbiology_test_request_form.pdf).

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87973
LPA3P
62205

Lymphocyte Proliferation to Anti-CD3/Anti-CD28 and Anti-CD3/Interleukin-2 (IL-2) by Flow Cytometry

Specimen Requirements: For serial monitoring, we recommend that specimen draws be performed at the same time of day. Supplies: Ambient Mailer-Critical Specimens Only (T668) Container/Tube: Green top (sodium heparin) Specimen Volume: <3 months: 1 mL 3 months-5 years: 3 mL 6-18 years: 5 mL >18 years: 20 mL Collection Instructions: Send specimen is original tube. Do not aliquot. Blood Volume Recommendations Based on Absolute Lymphocyte Count (ALC) ALC Blood Volume for Minimum aCD28 Only Blood Volume for Minimum of aCD3, aCD28, and IL-2 Blood Volume for Full Assay <0.5 >15 cc >28 cc >50 cc 0.5-1.0 15 cc 28 cc 50 cc 1.1-1.5 6.5 cc 12 cc 24 cc 1.6-2.0 4.5 cc 8.5 cc 16 cc 2.1-3.0 3.5 cc 6.5 cc 12 cc 3.1-4.0 2.5 cc 4.5 cc 8 cc 4.1-5.0 1.8 cc 3.5 cc 6 cc >5.0 1.5 cc 2.5 cc 5 cc

Specimen Minimum Volume: 1 mL

Transport Temperature:
WB Sodium Heparin Ambient 48 hours

CPT Code Information: 87476; 87798 x 2;

LPA5GF
60592

Lymphocyte Proliferation to Antigens, Blood

Specimen Requirements: This test should not be ordered for patients younger than 3 months of age unless there is a clinical history of candidiasis. See the Cautions section for additional information. For serial monitoring, we recommend that specimen draws be performed at the same time of day. See Cautions section. Supplies: Ambient Mailer-Critical Specimens Only (T668) Container/Tube: Green top (sodium heparin) Specimen Volume: See Cautions section. <3 months: 1 mL 3-24 months: 3 mL 25 months-18 years: 5 mL >18 years: 20 mL Collection Instructions: Send specimen in original tube. Do not aliquot. Blood Volume Recommendations Based on Absolute Lymphocyte Count (ALC) Antigen Only ALC Blood Volume for Minimum CA and TT Only Blood Volume for Full Assay <0.5 >18.5 cc >40 cc 0.5-1.0 18.5 cc 40 cc 1.1-1.5 8.5 cc 20 cc 1.6-2.0 6.0 cc 12 cc 2.1-3.0 4.5 cc 10 cc 3.1-4.0 3.0 cc 6 cc 4.1-5.0 2.5 cc 5 cc >5.0 2.0 cc 4 cc Mitogen and Antigen ALC Blood Volume for Minimum of Each Assay Blood Volume for Full Assay <0.5 >28 cc >60 cc 0.5-1.0 28 cc 60 cc 1.1-1.5 12 cc 30 cc 1.6-2.0 8.5 cc 20 cc 2.1-3.0 6.5 cc 15 cc 3.1-4.0 4.5 cc 10 cc 4.1-5.0 3.5 cc 8 cc >5.0 2.5 cc 6 cc

Specimen Minimum Volume: <6 years: 1 mL; 6-18 years: 2 mL; Adults (>18 years): 6 mL

Transport Temperature:
WB Sodium Heparin Ambient 48 hours

CPT Code Information: 86353 x 1-Anti-CD3 + anti-CD28 stimulation; 86353 x 1-Anti-CD3 + IL2 stimulation; 86353 x 1-Anti-CD3 stimulation (as indicated);

LPMGF
60591

Lymphocyte Proliferation to Mitogens, Blood

Specimen Requirements: For serial monitoring, we recommend that specimen draws be performed at the same time of day. Supplies: Ambient Mailer-Critical Specimens Only (T668) Container/Tube: Green top (sodium heparin) Specimen Volume: <3 months: 1 mL 3 months-5 years: 2 mL 6-18 years: 3 mL >18 years: 10 mL Collection Instructions: Send specimen is original tube. Do not aliquot. Blood Volume Recommendations Based on Absolute Lymphocyte Count (ALC) Mitogen Only
**LEF1**

**71356**

### Lymphoid Enhancer-Binding Factor 1 (LEF1) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)

Refrigerated

**CPT Code Information:** 86342-TC, primary; 88341-TC, if additional IHC;

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**LPLFX**

**61114**

### Lymphoplasmacytic Lymphoma/Waldenstrom Macroglobulinemia (LPL/WM), MYD88 L265P with Reflex to CXCR4

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood Container/Tube: EDTA (lavender top, preferred), ACD solution B (yellow top) Specimen Volume: 3 mL Specimen Stability: Ambient (preferred)/Refrigerated Collection Instructions: 1. Invert several times to mix blood 2. Send specimen in original tube 3. Label specimen as blood Specimen Type: Bone marrow Container/Tube: EDTA (lavender top, preferred), ACD solution B (yellow top) Specimen Volume: 2 mL Specimen Stability: Ambient (preferred)/Refrigerated Collection Instructions: 1. Invert several times to mix bone marrow 2. Send specimen in original tube 3. Label specimen as bone marrow Specimen Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube with indication of volume and concentration of the DNA Specimen Volume: Entire specimen Specimen Stability: Frozen (preferred)/Refrigerated/Ambient Collection Instructions: Label specimen as extracted DNA and list the specimen source. Include indication of volume and concentration of the DNA. Specimen Type: Paraffin-embedded tissue Container/Tube: Paraffin block Specimen Stability: Ambient Specimen Type: Paraffin-embedded bone marrow aspirate clot Container/Tube: Paraffin block Specimen Stability: Ambient

**Specimen Minimum Volume:** Blood, Bone Marrow: 1 mL Extracted DNA: 20mcL with a concentration of at least 10 nanograms per mcL

**Transport Temperature:**

Varies Varies 10 days
**LYNCH 64333**

**Lynch Syndrome Panel**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this assay; see Special Instructions. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81292-MLH1; 81295-MSH2; 81298-MSH6; 81317-PMS2; 81319-PMS2 (postmeiotic segregation increased 2 [S. cerevisiae]) (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) gene analysis; duplication/deletion variants; 81403-EPCAM; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, bacterial artificial chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

**LPCBS 61766**

**Lysophosphatidylcholines by LC MS/MS, Blood Spot**

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube:Preferred: Blood Spot Collection Card (T493) Acceptable: Ahlstrom 226 filter paper, Munktell and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle). 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for a minimum of 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 56 days
- Frozen 56 days
- Ambient 7 days

**CPT Code Information:** 82542
**LALB 62954**

**Lysosomal Acid Lipase, Blood**

**Specimen Requirements:** Collection Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) or green top (sodium heparin) Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Whole blood Refrigerated (preferred) 7 days

Ambient 7 days

**CPT Code Information:** 82657

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**LALBS 62955**

**Lysosomal Acid Lipase, Blood Spot**

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Collection Container/Tube: Preferred: Blood spot collection card (T493) Acceptable: Ahlstrom 226 Filter Paper, Munktell TFN, and Whatman Protein Saver 903 Paper Specimen Volume: 2 blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is fingerstick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**

Whole blood Refrigerated (preferred) 28 days

Frozen 90 days

Ambient 7 days

**CPT Code Information:** 82657

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**LDALD 64907**

**Lysosomal and Peroxisomal Disorders Newborn Screen, Blood Spot**

**Specimen Requirements:** Patient must be older than 24 hours and less than 1 week of age. Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) (T493) Acceptable: Ahlstrom 226 filter paper, Munktell filter paper, Whatman Protein Saver 903 Paper, or blood collected in tubes containing ACD, EDTA, or heparin and dried on filter paper Specimen Volume: 2 blood spots Collection Instructions: 1. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle). 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for a minimum of 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**
Lysosomal and Peroxisomal Storage Disorders Screen, Blood Spot

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) (T493) Acceptable: Ahlstrom 226 filter paper, Munktell filter paper, Whatman Protein Saver 903 paper, or blood collected in tubes containing ACD, EDTA, or heparin and dried on acceptable filter paper Specimen Volume: 2 blood spots Collection Instructions: 1. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle). 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**

Whole blood Refrigerated (preferred) 56 days

Frozen 56 days

Ambient 7 days

**CPT Code Information:** 83789

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Lysosomal Storage Disease Panel by Next-Generation Sequencing

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Prenatal Specimens Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request; Eagle's minimum essential medium with 1% penicillin and streptomycin.
LSD6
64906

Lysosomal Storage Disorders Newborn Screen, Blood Spot

**Specimen Requirements:** Patient must be older than 24 hours and less than 1 week of age. Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) (T493) Acceptable: Ahlstrom 226 filter paper. Munktell filter paper, Whatman Protein Saver 903 Paper, or blood collected in tubes containing ACD, EDTA, or heparin and dried on filter paper Specimen Volume: 2 blood spots Collection Instructions: 1. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle). 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for a minimum of 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot

**Transport Temperature:**

Whole blood Refrigerated (preferred) 60 days

Frozen 60 days

Ambient 30 days

**CPT Code Information:** 83789
LYSDU

Lysosomal Storage Disorders Screen, Urine

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 10 mL
Pediatric: 3 mL Collection Instructions: 1. Collect a random urine specimen (early morning preferred).
2. Immediately freeze specimen.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Urine Frozen 45 days

**CPT Code Information:** 82542x2-Ceramide Trihex and Sulfatide, U and Mucopolysaccharides, (MPS), QL, U; 83864-Mucopolysaccharides (MPS), QN, U; 84377-Oligosaccharide Screen, U;

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LYZZ

Lysozyme (LYZ) Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Varies Ambient
(preferred)

Frozen
Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

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MUR

Lysozyme (Muramidase), Plasma

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Plasma EDTA Frozen 30 days

**CPT Code Information:** 85549

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LYSOZ

Lysozyme Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
LYSO 82398

Lysozyme, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred)  14 days
Frozen 90 days

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

FLYSO 58101

Lysozyme, Serum

Specimen Requirements: Draw blood in a serum gel tube(s). (Plain red-top tube is acceptable). Spin down and send 1 mL serum refrigerate in a plastic vial.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Refrigerated (preferred)  7 days
Frozen 90 days

CPT Code Information: 86008

MPTS 65198

M-Protein Isotype by Matrix-Assisted Laser Desorption/Ionization-Time of Flight Mass Spectrometry (MALDI-TOF MS), Serum

Specimen Requirements: Only orderable as part of a profile. For more information see: SPISO / Protein Electrophoresis and Isotype, Serum SMOGA / Monoclonal Gammopathy Screen, Serum MMOGA / Monoclonal Gammopathy Monitor, Serum Patient Preparation: Fasting preferred but not required Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

CPT Code Information: 0077U
**Macadamia Nut, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens–Immunoglobulin E (IgE) Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Mace, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Mackerel, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Macroamylase**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.
Macroprolactin, Serum

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top

**Specimen Volume:** 1 mL

**Collection Instructions:** Spin down and separate serum from clot.

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 82150; ;

Magnesium, 24 Hour, Urine

**Specimen Requirements:** Collection Container/Tube: 24-hour graduated urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic urine container with no metal cap or glued insert Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 83735

Magnesium, Random, Urine

**Specimen Requirements:** Only orderable as part of a profile. For more information see SSATR / Supersaturation Profile, Pediatric, Random, Urine.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
**MAGNR**  
**Magnesium, Random, Urine**  
**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.  
**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
Urine Refrigerated (preferred) 14 days  
Frozen 14 days  
Ambient 72 hours  

**CPT Code Information:** 83735

**FMAGR**  
**Magnesium, Red Blood Cell**  
**Specimen Requirements:** Collect whole blood from a metal-free EDTA (royal blue top) tube. Spin down and separate plasma and red blood cells immediately. Ship 2 mL plasma and 2 mL RBC in metal-free tubes, refrigerate. NOTE: Both plasma and RBCs are required for testing.  
**Specimen Minimum Volume:** 0.3 mL  
**Transport Temperature:**  
Metal Free EDTA Plasma Refrigerated (preferred) 5 days  
Ambient 72 hours  
RBCS Refrigerated (preferred) 5 days  
Ambient 72 hours  

**CPT Code Information:** 83735

**MGS**  
**Magnesium, Serum**  
**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Serum gel tubes should be centrifuged within 2 hours of collection. 3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Additional Information: If other metal tests are also desired when drawing for a serum magnesium level; the specimen must be drawn in a plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184).  
**Specimen Minimum Volume:** 0.25 mL  
**Transport Temperature:**
Serum Refrigerated (preferred)  7 days
Frozen              365 days

CPT Code Information:  83735

**FMME**

**Mahi Mahi IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  28 days
Frozen              365 days
Ambient              28 days

CPT Code Information:  86003

**MOBRD**

**Mail Out Research, Blood**

**Transport Temperature:**
Varies

**MALI**

**MAL Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  (preferred)
Refrigerated

CPT Code Information:  88342-TC, primary; 88341-TC, if additional IHC;

**LMALP**

**Malaria PCR with Parasitemia Reflex**

**Specimen Requirements:** Forms: If not ordering electronically, complete, print, and send a Microbiology Request Form (T244) with the specimen Blood and slides are required. Specimen Type: Blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Do not transfer blood to other containers. Send specimen in original tube. Additional Information: 1. This test is not performed on a STAT basis and, therefore, should not be used as a primary screening test for malaria. 2. This test is used primarily for confirmation of a presumptive malaria diagnosis and determination of infecting Plasmodium species particularly when the parasite morphology on traditional blood films is suboptimal. 3. Clients

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
in the Rochester, MN area who are seeking a primary test for malaria and who can deliver the specimen within 4 hours of collection should order the MAL / Malaria/Babesia Smear. Laboratories that are unable to deliver a specimen within 4 hours of collection should perform an initial screen for malaria and other blood parasites in their laboratory prior to sending a specimen to Mayo Medical Laboratories.

Specimen Type: Blood films
Container/Tube: Clean, grease-free slides in plastic slide container
Specimen Volume: 2 thin blood films and 2 thick blood films
Collection Instructions: 1. Blood films should be made from fresh blood using fingerstick or drops of blood from needle following venipuncture. However, EDTA anticoagulated blood is also acceptable. 2. Prepare thin blood films as follows: a. Prepare a thin film with a "feathered edge" that is no more than a single cell thick. b. Allow the film to thoroughly air dry and then fix by briefly immersing in either absolute or 95% methyl alcohol. c. Allow to air dry after fixation. 3. Prepare thick blood films as follows: a. Place a large drop of blood (approximately the size of a dime and preferably from a fingerstick) on a slide. b. Using a corner of a second slide, spread the drop in a circular motion while applying firm pressure to literally scratch the blood onto the carrier slide. This technique allows the blood to dry quickly and adhere well to the slide. Use approximately 20 circular sweeps with the second slide. The drop of blood should be about the size of a quarter when finished. c. Do not fix. Air dry thoroughly (approximately 45 minutes) before placing in transport container.

Specimen Minimum Volume: 1 mL/Slides: NA

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Ambient 7 days

CPT Code Information: 87798; 87207 (if applicable);

PARCT
62259

Malaria Percent Parasitemia

Specimen Requirements: Only orderable as a reflex. For more information see LMALP / Malaria PCR with Parasitemia Reflex. Slides for LMALP are used for the PARCT. May be added on to positive LCMAL / Malaria, Molecular Detection, PCR Only by physician request.

Specimen Minimum Volume: Only orderable as a reflex. For more information see LMALP / Malaria PCT with Parasitemia Reflex

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Ambient 7 days

CPT Code Information: 87207

LCMAL
87860

Malaria, Molecular Detection, PCR Only

Specimen Requirements: Both blood and slides are required. Specimen Type: Blood
Container/Tube: Lavender top (EDTA)
Specimen Volume: 4 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Do not transfer blood to other containers. Send specimen in original tube.
Additional Information: 1. This test is not performed on a STAT basis and, therefore, should not be used as a primary screening test for malaria. 2. This test is used primarily for confirmation of a presumptive malaria diagnosis and determination of infecting Plasmodium species particularly when the parasite morphology on traditional blood films is suboptimal. 3. Clients in the Rochester, MN area who are seeking a primary test for malaria and who can deliver the specimen within 4 hours of collection should order the MAL / Malaria/Babesia Smear. Laboratories that are unable to deliver a specimen within 4 hours of collection should perform an initial screen for malaria and other blood parasites in their laboratory prior to sending a specimen to Mayo Medical Laboratories. 5. This test does not include blood smear examination/calculation of parasitemia. If calculation of percent parasitemia is also desired.
for cases that are PCR positive for Plasmodium species, clients should order LMALP / Malaria with Percent Parasitemia Reflex, Molecular Detection, PCR. Specimen Type: Blood films Container/Tube: Clean, grease-free slides in plastic slide container Specimen Volume: 2 thin blood films and 2 thick blood films Collection Instructions: 1. Ideally, blood films should be made directly from uncoagulated blood acquired via fingerstick. However, EDTA anticoagulated blood is also acceptable. 2. Prepare thin blood films as follows: a. Prepare a thin film with a "feathered edge" that is no more than a single cell thick. b. Allow the film to thoroughly air dry and then fix by briefly immersing in either absolute or 95% methyl alcohol. c. Allow to air dry after fixation. 3. Prepare thick blood films as follows: a. Place a large drop of blood (approximately the size of a dime and preferably from a fingerstick) on a slide. b. Using a corner of a second slide, spread the drop in a circular motion while applying firm pressure to literally scratch the blood onto the carrier slide. This technique allows the blood to dry quickly and adhere well to the slide. Use approximately 20 circular sweeps with the second slide. The drop of blood should be about the size of a quarter when finished. c. Do not fix. Air dry thoroughly (approximately 45 minutes) before placing in transport container.

Specimen Minimum Volume: Blood: 1 mL/Slides: NA

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Ambient 7 days

CPT Code Information: 87798

MAAN
82396
Maleic Anhydride, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

MCMF
113355
Malignant Cells Cyto/Heme (Bill Only)
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
Varies Ambient (preferred)
Refrigerated

CPT Code Information: 88108

MALT
82834
Malt, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**MAML2 (11q21) Rearrangement, Mucoepidermoid Carcinoma (MEC), FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Container/Tube: Formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Collection Instructions: Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Specimen Volume: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
Tissue Ambient (preferred)
Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**Mammaglobin (MGB) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**Mandarin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Manganese, 24 Hour, Urine**

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections. 3. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 7 days

**CPT Code Information:** 83785

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**Manganese, Blood**

**Specimen Requirements:** Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: 0.8 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368381.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 28 days
Manganese, Red Blood Cell

**Specimen Requirements:** Collect whole blood in a metal-free EDTA (royal blue top) tube. Spin down and separate plasma and red blood cells immediately. Ship 3 mL plasma and 3 mL RBC in metal free tubes; refrigerate. NOTE: Both plasma and RBCs are required for testing.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Metal Free EDTA Plasma: Refrigerated (preferred) 5 days
  - Ambient: 72 hours
- RBCS: Refrigerated (preferred) 5 days
  - Ambient: 72 hours

**CPT Code Information:** 83785

Manganese, Serum

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium, iodine, and barium are known to interfere with most metals tests. If gadolinium-, iodine, or barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1.6 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes, and then centrifuge to separate serum from the cellular fraction. Serum must be removed from cellular fraction within 4 hours of draw. Avoid hemolysis. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, while avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 28 days
  - Ambient: 28 days
  - Frozen: 28 days

**CPT Code Information:** 83785

Manganese/Creatinine Ratio, Random, Urine

**Specimen Requirements:** Collection Container/Tube: Clean, plastic urine collection container
Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 7 days

**CPT Code Information:** 83785 Manganese Concentration; 82570 Creatinine Concentration;

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**MANGO 82811**

**Mango, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**FMBL 57587**

**Mannan Binding Lectin (MBL)**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 365 days
  - Ambient 28 days
  - Refrigerated 28 days

**CPT Code Information:** 86160

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**MBL 81051**

**Mannose-Binding Lectin, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL
**Transport Temperature:**
Serum Frozen 7 days

**CPT Code Information:** 83520

**FMPRE 57535**

**Maple Red (Acer rubrum) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 28 days

**CPT Code Information:** 86003

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**MAPTZ 35475**

**MAPT Gene, Sequence Analysis, 7 Exon Screening Panel**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD). Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient (preferred)

Frozen

Refrigerated

**CPT Code Information:** 81406-MAPT (microtubule-associated protein tau) (eg, frontotemporal dementia), full gene sequence

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**MARE 82141**

**Mare's Milk, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

Frozen 90 days
**Marfan Syndrome and Related Disorders Multi-Gene Panel, Varies**

**Specimen Requirements:** Prior Authorization is available for this test. Submit the required form with the specimen. Submit only 1 of the following specimens:

- **Specimen Type:** Whole blood
- **Container/Tube:** Lavender top (EDTA)
- **Specimen Volume:** 3 mL
- **Collection Instructions:** 1. Invert several times to mix blood. 2. Send specimen in original tube.
- **Specimen Stability Information:** Ambient (preferred) 4 days/Refrigerated 14 days
- **Specimen Type:** DNA
- **Container/Tube:** 2 mL screw top tube
- **Specimen Volume:** 100 mcL (microliters)
- **Collection Instructions:** 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube.
- **Specimen Stability Information:** Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:** Varies

**CPT Code Information:** 86003

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**Marjoram, IgE**

**Specimen Requirements:**

- **Container/Tube:** Preferred: Red top
- **Acceptable:** Serum gel
- **Specimen Volume:** 0.5 mL for each 5 allergens requested

**Additional Information:** Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 81410

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**Mass Gen DNA Diag Lab**

**Specimen Requirements:** This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:** Varies

**CPT Code Information:** 86003

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MSPTC 113288

Mass Spectrometry (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

Varies

(Ambient (preferred)

Refrigerated

**CPT Code Information:** 82542-Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

MTRBL 64456

MatePair, Targeted Rearrangements, Congenital

**Specimen Requirements:** This test requires 2 blood specimens: 1 sodium heparin and 1 EDTA.

Specimen Type: Whole blood

Collection Container/Tube: Green top (sodium heparin) and lavender top (EDTA)

Specimen Volume: 3 mL EDTA tube and 4 mL sodium heparin tube

Collection Instructions: 1. Invert several times to mix blood. 2. Send specimens in original tubes.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**

Whole blood

(Ambient (preferred)

Refrigerated

**CPT Code Information:** 0012U

MTRBM 64935

MatePair, Targeted Rearrangements, Hematologic

**Specimen Requirements:** Submit only 1 of the following specimens:

- Specimen Type: Bone marrow

Collection Container/Tube: Green top (sodium heparin)

Specimen Volume: 1-2 mL

Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimens in original tubes.

- Specimen Type: Whole blood

Collection Container/Tube: Green top (sodium heparin)

Specimen Volume: 7-10 mL

Collection Instructions: 1. Invert several times to mix blood. 2. Send specimens in original tubes.

**Specimen Minimum Volume:** Blood: 2 mL; Bone Marrow: 1 mL

**Transport Temperature:**

Varies

(Ambient (preferred)

Refrigerated

**CPT Code Information:** 0014U

MTRTI 64936

MatePair, Targeted Rearrangements, Oncology

**Specimen Requirements:** Submit only 1 of the following specimens: Supplies: Hank's Solution (T132)

Specimen Type: Tumor biopsy

Collection Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline

Specimen Volume: 0.5-3 cm(3) or larger
Supplies: Hank's Solution (T132) Specimen Type: Lymph node Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline. Specimen Volume: 1 cm(3)

Supplies: Hank's Solution (T132) Specimen Type: Skin biopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline. Specimen Volume: 4-mm diameter Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis. Specimen Type: Snap Frozen tissue Container/Tube: Polycell flat Specimen Volume: 3 cm(3)/Lymph Node: 1 cm(3)/Skin Biopsy: 4-mm diameter

Specimen Minimum Volume: Tumor Biopsy: 3 cm(3); Lymph Node: 1 cm(3); Skin Biopsy: 4-mm diameter; Cultured tumor cells: T-25 flask; Cryo-frozen cultured tumor cells: 5 million cells

Transport Temperature: Tissue Varies

CPT Code Information: 0013U; 

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**Maternal Cell Contamination, Molecular Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Maternal blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Prenatal Specimens: Submit only 1 of the following specimens: Specimen Type: Cord blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Additional Information: A separate culture charge will be assessed under CULAF / Amniotic Fluid Culture for Genetic Testing. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Cultured amniocytes Container/Tube: T-25 flask Specimen Volume: 2 full flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Additional Information: A separate culture charge will be assessed under CULFB / Fibroblast Culture for Genetic Testing. Specimen Stability Information: Refrigerated Specimen Type: Cultured chorionic villi Container/Tube: T-25 flasks Specimen Volume: 2 full flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Minimum Volume: Amniotic Fluid: 10 mL Blood, Cord Blood: 0.5 mL Chorionic Villus: 5 mg

Transport Temperature: Varies Varies

CPT Code Information: 81265; ; Fibroblast Culture for Genetic Test; 88233-(if appropriate); 88240-(if appropriate); ; Amniotic Fluid Culture/Genetic Test; 88235-(if appropriate); 88240-(if appropriate); ; Each additional specimen; 81266;
Maternal Serum Screening, Integrated, Specimen #1, PAPP-A, NT

**Specimen Requirements:** Specimen #1 collection must occur between 10 weeks, 0 days and 13 weeks, 6 days gestation. (If gestational age is based on Crown-Rump length (CRL), the specimen must be collected when the CRL is between 32.4 - 83.9 mm) Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 0.5 mL serum refrigerated in a plastic vial. Separate from cells ASAP or within 2 hours of collection. Note: Submit with order: Patient's date of birth, current weight, number of fetuses present, patient's race, if the patient was diabetic at the time of conception, if there is a known family history of neural tube defects, if the patient has had a previous pregnancy with a trisomy, if the patient is currently smoking, if the patient is taking valproic acid or carbamazepine (Tegretol), if this is a repeat sample, and the age of the egg donor if in vitro fertilization. -Please refer to Arup Website for patient information form at: http://ltd.aruplab.com/Tests/Pub/3000147

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
- Ambient 72 hours

**CPT Code Information:** 84163

Maternal Serum Screening, Integrated, Specimen #2, Alpha Fetoprotein, Hcg, Estriol, and Inhibin A

**Specimen Requirements:** Specimen must be drawn between 14 weeks, 0 days and 24 weeks, 6 days gestation (based on the CRL). Recommended time for maternal serum screening is 16 to 18 weeks gestation. Acceptable date ranges to draw the second samples will be provided in the Integrated-1 report. Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial. Separate from cells ASAP or within 2 hours of collection. This test requires that a previous first trimester specimen, Maternal Serum Screening, Integrated, Specimen #1, PAPP-A, NT (ARUP test code 3000147), has been performed.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 72 hours

**CPT Code Information:** 81511

Mayo Algorithmic Approach for Stratification of Myeloma and Risk-Adapted Therapy Report

**Specimen Requirements:** Specimen Type: Redirected bone marrow Preferred: Yellow top (ACD) Acceptable: EDTA or heparin Specimen Volume: 4 mL

**Specimen Minimum Volume:** 3 mL
Transport Temperature:
Bone Marrow  Ambient (preferred)  72 hours
Refrigerated  72 hours

CPT Code Information: 88182-Flow cytometry, cell cycle or DNA analysis; 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185 x 5-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each); 88187-Flow cytometry interpretation, 2 to 8 Markers;

**MDM2F**

**63049**

**MDM2 (12q15) Amplification, Well-Differentiated Liposarcoma/Atypical Lipomatous Tumor, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5- micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
Tissue Ambient (preferred)
Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; each additional probe set (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**MEAD**

**82890**

**Meadow Fescue, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred)  14 days
Frozen  90 days

**CPT Code Information:** 86003
MFOX 82914

**Meadow Foxtail, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

ROPG 34941

**Measles (Rubeola) Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86765

ROM 80979

**Measles (Rubeola) Antibodies, IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86765

ROGM 62066

**Measles (Rubeola) Virus Antibody, IgM and IgG (Separate Determinations), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days
**FMECM 57760**

**Meconium Methadone Screen**

**Specimen Requirements:** Collect specimen into the same leak proof, sterile plastic collection vial until 3 g of meconium have been collected or until the first milk stool appears. Between collections, store specimen in a secure refrigerator. When at least 3 g of meconium has been collected, tightly screw on the cap of the collection vial and send specimen refrigerated. Note: Specimens from different voiding may be pooled if necessary.

**Specimen Minimum Volume:** 0.7 g

**Transport Temperature:**
- Meconium Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 5 days

**CPT Code Information:** 80307

**MECPZ 35484**

**MECP2 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
  - Frozen
  - Refrigerated

**CPT Code Information:** 81302-MECP2 (methyl CpG binding protein 2) (eg, Rett syndrome) gene analysis; full sequence analysis; 81304-MECP2 (methyl CpG binding protein 2) (eg, Rett syndrome) gene analysis; duplication/deletion variants;

**MCADZ 35478**

**Medium-Chain Acyl-CoA Dehydrogenase (MCAD) Deficiency Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours
Specimen Type: Skin biopsy  Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle’s minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch  Specimen Stability Information: Refrigerated (preferred)/Ambient  Specimen Type: Blood spot  Supplies: Card - Blood Spot Collection (Filter Paper)  (T493)  Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper)  Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493)  Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry  Specimen Stability Information: Ambient (preferred)/Refrigerated  Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume:  Blood: 1 mL  Blood Spots: 5 punches, 3-mm diameter  
Transport Temperature:  
Varies  

CPT Code Information: 81479- Unlisted molecular pathology procedure; ; Fibroblast Culture for Genetic Test; 88233- Tissue culture, skin or solid tissue biopsy (if appropriate); 88240- Cryopreservation (if appropriate); ;

MEDF  
58122 
Medulloblastoma, FISH, Tissue  
Specimen Requirements:  Submit only 1 of the following specimens:  Specimen Type: Tissue  Preferred: Tissue block  Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides  Collection Instructions: Six consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.  
Specimen Minimum Volume:  Four consecutive, unstained, 5-micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.  
Transport Temperature:  
Tissue Ambient  (preferred)  Refrigerated  
CPT Code Information: 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); ;

MEFVZ  
35486 
MEFV Gene, Full Gene Analysis  
Specimen Requirements:  Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who
have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81404-MEFV (Mediterranean fever) (eg, familial Mediterranean fever), full gene sequence

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### MEGR 82347

**Megrim, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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### MELAI 82724

**Melaleuca leucadendron, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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### MELAN 70504

**Melan A (MART-1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable:
Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

### MELP
#### Melanoma Targeted Gene Panel by Next-Generation Sequencing, Tumor

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block
Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable:
Specimen Type: Tissue Slides: 1 Stained and 10 unstained
Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained, nonbaked slides with 5 micron-thick sections of the tumor tissue. Specimen Type: Cytology Container/Tube: Cytology slide (direct smears or ThinPrep) Slides: 1 to 2 slides (stained and coverslipped) with a minimum of 5,000 total nucleated cells
Collection Instructions: Submit 1 to 2 slides stained and coverslipped Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 8 unstained, non-baked slides with 5-micron-thick sections of the tumor tissue with at least 6 mm² area of tissue (can be over multiple slides) and 20% tumor nuclei, 1 stained and coverslipped cytology slide with at least 5,000 total nucleated cells and at least 20% tumor cells.

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen
Refrigerated

**CPT Code Information:** 81445; 88381-Microdissection, manual;

### MELF
#### Melanoma, FISH, Tissue

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue
Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Seven consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin (H and E) stained slide.

**Specimen Minimum Volume:** Three consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 (H&E) stained slide

**Transport Temperature:**
Tissue Ambient
(preferred)
Refrigerated

Current as of October 16, 2018 7:53 pm CDT
CPT Code Information: 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 – DNA probe, each; each additional probe set (if appropriate); 88271x1 – DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 – DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 – DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 – Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**FMELP**

**Melatonin, Plasma**

**Specimen Requirements:** Specimen Type: Plasma Container/Tube: Preferred: (Lavender top) EDTA Acceptable: (pink top) EDTA Specimen volume: 3 mL Collection instructions: Draw blood in EDTA (lavender top) tube(s). Spin down and send 1 mL of plasma refrigerated in a plastic vial. Specimen Stability Information: Refrigerated

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Plasma EDTA Refrigerated (preferred) 30 days

Frozen 365 days

Ambient 14 days

CPT Code Information: 80375

**FMELG**

**Melons IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 7 days

CPT Code Information: 86001

**MELN**

**Melons, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

Frozen 90 days
Meperidine (Demerol) and Normeperidine, serum

Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s). Plasma gel tube is not acceptable. Spin down and send 3 mL of sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s). Serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Varies Refrigerated (preferred) 14 days

Frozen 180 days
Ambient 72 hours

Mephedrone, MDPV and Methylone, Urine

Specimen Requirements: Container: Preservative-free plastic urine container Specimen volume: 10 mL Collection instructions collect a random urine specimen No preservative

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Frozen 180 days
Ambient 72 hours

Meprobamate and Phenobarbital, Serum

Specimen Requirements: Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: Spin down within 2 hours of draw.

Specimen Minimum Volume: 0.7 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 14 days

Ambient 14 days
Frozen 14 days

Mercaptopurine (6-MP, Purinethol)
**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80375

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**HGUO 48555**

**Mercury Occupational Exposure, Random, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 83825; 82570;

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**HGU 8592**

**Mercury, 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days
**CPT Code Information:** 83825

**Mercury, Blood**

**Specimen Requirements:** Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: Full tube Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368381.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**

- Whole blood Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 83825

**Mercury, Hair**

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g Collection Instructions: Prepare and transport specimen per the instructions in the kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. Additional Information: If known, indicate source of hair (axillary, head, or pubic).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**

- Hair Ambient (preferred)
- Frozen Refrigerated

**CPT Code Information:** 83825

**Mercury, Nails**

**Specimen Requirements:** Supplies: Hair and Nails Collection Kit (T565) Specimen Volume: 0.2 g Collection Instructions: 1. Prepare and transport specimen per the instructions in the kit or see Collecting Hair and Nails for Metals Testing in Special Instructions. 2. Clippings should be taken from all 10 fingernails or toenails. Additional Information: If known, indicate source of nails (fingernails or toenails).

**Specimen Minimum Volume:** 0.05 g

**Transport Temperature:**

- Nail Ambient (preferred)
- Frozen

**CPT Code Information:** 83825
**HGRCR 48545**

**Mercury/Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect urine a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 83825 ; 82570 ;

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**HGRC 48546**

**Mercury/Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Only orderable as part of profile. See HGRCR / Mercury/Creatinine Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with Reflex, Urine.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

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**MERKC 71538**

**Merkel CC (MCPyV) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**Mesenchymal Chondrosarcoma, by Reverse Transcriptase PCR (RT-PCR)**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue block with a minimum of 10% tumor cell population Collection Instructions: Process all fresh or frozen specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 10% tumor population; slides may be stained and/or scraped Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen
Refrigerated

**CPT Code Information:** 81479-HEY1/NCOA2 ; 88381-Microdissection, manual;

**Mesoridazine (Serentil)**

**Specimen Requirements:** Submit only 1 of the following: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.25

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

**CPT Code Information:** 80342

**Mesothelial Cell (HBME-1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** N/A

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
Mesquite, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

MET (7q31), FISH, Tissue

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

Metabolic Myopathy Panel (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81401; 81403; 81404; 81405 x 4; 81406 x 5; 81407; 81479;

Metabolic/Syndromic Neuropathy Panel by Next-Generation Sequencing (NGS)

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who...
have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL.

Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

Specimen Minimum Volume: 3 mL

Transport Temperature:
Varies Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 81448

METAF 83006

Metanephrines, Fractionated, 24 Hour, Urine

Specimen Requirements: Patient Preparation: Tricyclic antidepressants, labetalol, and sotalol medications may elevate levels of metanephrines producing results that cannot be interpreted. If clinically feasible, it is optimal to discontinue these medications at least 1 week before collection. For advice on assessing the risk of removing patients from these medications and alternatives, you may consider consultation with a specialist in endocrinology or hypertension. Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic urine tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 10 g (pediatric: 3 g) of boric acid or 25 mL (pediatric: 15 mL) of 50% acetic acid as preservative at start of collection. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Urine Refrigerated (preferred) 7 days
Frozen 14 days
Ambient 7 days

CPT Code Information: 83835

PMET 81609

Metanephrines, Fractionated, Free, Plasma

Specimen Requirements: Patient Preparation: Use of an Epi-pen within last 7 days may produce inaccurate results. Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down within 2 hours of draw. Plasma must be separated from red blood cells within 2 hours of collection.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Plasma EDTA Frozen (preferred) 14 days
Refrigerated 7 days
**METAR**

**83005**

**Metanephrines, Fractionated, Random, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Patient Preparation: Tricyclic antidepressants and labetalol and sotalol (beta blockers) may elevate levels of metanephrines. If clinically feasible, these medications should be discontinued at least 1 week before collection. Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Frozen (preferred) 14 days
- Ambient 7 days
- Refrigerated 7 days

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**FMETF**

**91418**

**Metformin, Serum/Plasma**

**Specimen Requirements:** Submit only one of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL of serum refrigerate in a plastic vial (preservative free). Plasma Draw blood in a lavender-top (EDTA) tube(s) or Pink top tube. (Plasma gel tube is not acceptable.) Spin down and send 1 mL of plasma refrigerate in a plastic vial (preservative free).

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 30 days
  - Frozen 365 days
  - Ambient 30 days

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**MDNS**

**36309**

**Methadone and Metabolites, Serum**

**Specimen Requirements:** Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: 1. Spin down and remove serum from red blood cells within 2 hours of draw. 2. Aliquot serum to submission container.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
  - Ambient 14 days
  - Frozen 14 days
**Methadone Confirmation, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 14 days

**CPT Code Information:** 80358; G0480 (if appropriate);

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**Methadone Confirmation, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order MTDNX / Methadone Confirmation, Chain of Custody, Urine. 2. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 3. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 4. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 14 days

**CPT Code Information:** 80358; G0480 (if appropriate);

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**Methaqualone Confirmation, urine**

**Specimen Requirements:** 20 mL random urine without preservatives. Ship refrigerated in a plastic container.

**Specimen Minimum Volume:** 10 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80358; G0480 (if appropriate);
**Methemoglobin and Sulfhemoglobin, Blood**

**CPT Code Information:** 80375

**Specimen Requirements:** Specimen must arrive within 72 hours of draw. Container/Tube: Lavender top (EDTA) Specimen Volume: Full tube Additional Information: Patient's age is required.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** Whole Blood EDTA Refrigerated 72 hours

**CPT Code Information:** 83050-Methemoglobin; 83060-Sulfhemoglobin;

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**Methemoglobin Reductase, Blood**

**CPT Code Information:** 82657

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD) Acceptable: Lavender top (EDTA) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers. Additional Information: Patient's age is required.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** Whole Blood ACD-B Refrigerated 22 days

**CPT Code Information:** 82657

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**Methemoglobinemia Evaluation**

**CPT Code Information:** Methemoglobinemia Evaluation; 82657-Methemoglobin reductase; 83020-Hemoglobin electrophoresis; 83021-Hemoglobin A2 and F; 83050-Methemoglobin, quantitative; 83060-Sulfhemoglobin, quantitative; ; IEF Confirms; 82664-Isoelectric focusing (if appropriate); ; Hemoglobin, Unstable, Blood; 83068 (if appropriate); ; Hemoglobin Variant by Mass Spectrometry (MS), Blood; 83789 (if appropriate); ; Hemoglobin F, Red Cell Distribution, Blood; 88184 (if appropriate); ;

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**MTXSG Methotrexate Post Glucarpidase, Serum**

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Amber vial (T192) Specimen Volume: 1 mL
**MTHX 37047**

**Methotrexate, Serum**

**Specimen Requirements:**
- Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Amber vial (T192)
- Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days
- Ambient 7 days

**CPT Code Information:** 80299

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**FMETX 91822**

**Methsuximide (Celontin) as Desmethylmethsuximide**

**Specimen Requirements:**
- Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80339

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**MMAAF 81921**

**Methylmalonic Acid (MMA), Amniotic Fluid**

**Specimen Requirements:**
- Container/Tube: Amniotic fluid container Specimen Volume: 5-10 mL Collection Instructions: 1. Obtain specimen during 16 to 19 weeks of gestation. 2. Draw 25 to 30 mL of amniotic fluid and spin down. 3. Send cell-free supernatant specimen.

**Specimen Minimum Volume:** 2 mL
Transport Temperature:
Amniotic Fld Frozen (preferred) 45 days
Refrigerated 45 days
Ambient 72 hours

CPT Code Information: 83921

Methylmalonic Acid (MMA), Quantitative, Plasma

Specimen Requirements: Container/Tube: Preferred: Green top (sodium heparin) Acceptable: EDTA Specimen Volume: 1.5 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Plasma Refrigerated (preferred) 48 days
Ambient 48 days
Frozen 48 days

CPT Code Information: 83921

Methylmalonic Acid (MMA), Quantitative, Serum

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 48 days
Ambient 48 days
Frozen 48 days

CPT Code Information: 83921

Methylmalonic Acid (MMA), Quantitative, Urine

Specimen Requirements: Patient Preparation: Overnight fast required Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 4 mL Collection Instructions: Collect second-voided specimen after an overnight fast.

Specimen Minimum Volume: 1.2 mL

Transport Temperature:
Urine Frozen (preferred) 28 days
Refrigerated 28 days
Ambient 21 days
**Methylmalonic Aciduria and Homocystinuria, cblC Type, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogeneic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches, 3-mm diameter

**Transport Temperature:**

Varies

**CPT Code Information:** 81404-MMACHC (methylmalonic aciduria [cobalamin deficiency] cblC type, with homocystinuria) (eg, methylmalonic acidemia and homocystinuria), full gene sequence; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);
minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: Blood: 1 mL Blood Spots: 5 punches, 3-mm diameter
Transport Temperature:

CPT Code Information: 81479-Unlisted molecular pathology procedure; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

Methylphenidate (Ritalin) & MTB, Urine
Specimen Requirements: Collection Container: Random urine container Specimen Volume: 10 mL Collection Instructions: Collect 10mL random urine without preservative. Ship refrigerated in a plastic container.
Specimen Minimum Volume: .3 mL
Transport Temperature:
Urine Refrigerated (preferred) 14 days
    Frozen 180 days
    Ambient 72 hours

CPT Code Information: 80360

Methylphenidate, Serum
Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and freeze immediately. Send 2 mL of sodium heparin plasma frozen in a plastic vial on dry ice. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and freeze immediately. Send 2 mL serum frozen in a plastic vial on dry ice.
Specimen Minimum Volume: 0.3 mL
Transport Temperature:
Varies Frozen 180 days

CPT Code Information: 80360; ;
Mexiletine, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 3 mL Collection Instructions: 1. Samples should only be collected after patient has been receiving mexiletine for at least 3 days. 2. Trough concentrations should be collected just before administration of next dose.

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80299

MGMT Promoter Methylation, Tumor

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. At least 40% tumor is required for this assay. In general, a 6 mm x 3 mm area of tissue cut at 5-micron thickness is the minimum amount of tissue needed; this could be collected over multiple slides. Acceptable: Specimen Type: Tissue sections Slides: 1 stained and 5 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 5 unstained, nonbaked 5-micron thick sections of the tumor. At least 40% tumor is required for this assay. In general, a 6 mm x 3 mm area of tissue cut at 5 micron thickness is the minimum amount of tissue needed; this could be collected over multiple slides.

**Specimen Minimum Volume:** 5 unstained slides at 5-microns thickness

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81287; Slide Review; 88381;

MI-2

**Specimen Requirements:** Submit only 1 of the following Serum Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerate in plastic vial. Plasma Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 1 mL of EDTA plasma refrigerate in plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
  - Frozen 180 days
  - Ambient 7 days

**CPT Code Information:** 83516
**Microalbumin, Random, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL aliquot tube Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

**CPT Code Information:** 82043

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**Microalbuminuria, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL aliquot tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. Mix well before taking 4-mL aliquot. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

**CPT Code Information:** 82043

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**Microdissection, Laser Capture (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88380-Microdissection; laser capture

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**Micropolyspora faeni, IgG Antibodies, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL
**Transport Temperature:**

Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86609

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**Microsatellite Instability (MSI), Tumor**

**Specimen Requirements:** Tumor and normal tissue samples are both required. If sending multiple blocks, identify individual blocks as normal and/or tumor. Paraffin-embedded tissue blocks that have been decalcified are generally unsuccessful and not validated for testing. If a decalcified specimen is submitted (regardless of decal solution), testing will be canceled. Specimen Type: Tumor tissue block, formalin-fixed, paraffin-embedded (FFPE) prepared cell block unstained slides

Specimen Volume: Approximately 1 cm(2) of tumor is required. This can be 1 cm(2) in aggregate (eg, 5 unstained slides each containing with 0.2 cm(2) of tumor and normal tissue). Collection Instructions: Submit formalin-fixed, paraffin-embedded tissue block with corresponding hematoxylin and eosin (H and E) slides (preferred) or 1 slide stained with H and E and 10 unstained, nonbaked slides (5-micrometer thick sections) of the tumor tissue. Specimen Type: Normal tissue block or slide

Specimen Volume: Approximately 1 cm(2) of normal tissue is required. This can be 1 cm(2) in aggregate (eg, 5 unstained slides each with 0.2 cm(2) of normal tissue) Collection Instructions: Submit formalin-fixed, paraffin-embedded tissue block with corresponding hematoxylin and eosin (H and E) slides (preferred) or 1 slide stained with H and E and 10 unstained, nonbaked slides (5-micrometer thick sections) of the normal tissue.

**Transport Temperature:**

Varies Ambient (preferred)

Frozen

Refrigerated

**CPT Code Information:** 81301-Microsatellite instability analysis (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) of markers for mismatch repair deficiency (eg, BAT25, BAT26), includes comparison of neoplastic and normal tissue, if performed; 88381-Microdissection, manual;

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**Microsatellite Instability (MSI)/Mismatch Repair (MMR) Protein Immunohistochemistry Profile**

**Specimen Requirements:** Both tumor and normal tissue are required. If normal tissue in a formalin-fixed, paraffin-embedded tissue block is not available, whole blood may be submitted. Specimen Type: Tissue block and slides

Specimen Volume: Approximately 1 cm(2) of tumor and normal tissue are required. This can be 1 cm(2) in aggregate (eg, 5 unstained slides each with 0.2 cm[2] of tumor and normal tissue). Collection Instructions: 1. Submit formalin-fixed, paraffin-embedded
tissue block with corresponding hematoxylin and eosin (H and E)-stained slides (preferred) or 1 slide stained with H and E and 10 unstained, nonbaked slides (5-micrometer thick sections) of the tumor/normal tissue. 2. If sending in multiple blocks, identify individual blocks as containing normal or tumor tissue. 3. Paraffin-embedded tissue blocks that have been decalcified are generally unsuccessful and not validated for testing. If a decalcified specimen is submitted, testing will be canceled.

Specimen Stability Information: Ambient (preferred)/Frozen/Refrigerated
Specimen Type: Whole blood
Container/Tube: lavender-top (EDTA) or yellow-top (ACD)
Acceptable: Any anticoagulant
Specimen Volume: 3 mL

Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Stability Information: Ambient (preferred)/Refrigerated

CPT Code Information: 81301-Microsatellite instability analysis (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) of markers for mismatch repair deficiency (eg, BAT25, BAT26), includes comparison of neoplastic and normal tissue, if performed; MLH-1, Immunostain; 88341 (if appropriate); MSH-2, Immunostain; 88341 (if appropriate); MSH-6, Immunostain; 88341 (if appropriate); PMS-2, Immunostain; 88342 (if appropriate); 88381-Microdissection, manual;

Microsporidia species, Molecular Detection, PCR

Specimen Requirements: Submit only 1 of the following specimens: Preferred: Specimen Type: Unpreserved stool
Supplies: Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635)
Container/Tube: Stool container (T288)
Specimen Volume: 5 g
Specimen Stability Information: Refrigerated 7 days (preferred)/Frozen 7 days
Specimen Type: Preserved stool
Supplies: ECOFIX Stool Transport Vial (Kit) (T219); Stool Collection Kit, Random (T635)
Container/Tube: Preferred: ECOFIX preservative (T219)
Specimen Volume: 5 mL
Collection Instructions: Mid-stream, clean-catch, suprapubic aspirates and catheterization collections are acceptable. Please submit in a clean, sterile container free from preservatives. The first portion of the voided urine (first void) is also acceptable.
Specimen Stability Information: Refrigerated 7 days (preferred)/Frozen 7 days

Specimen Minimum Volume: Stool: 1 g; Urine: 0.5 mL

Transport Temperature:
Varies Refrigerated (preferred) 7 days

Ambient 7 days
Frozen 7 days

CPT Code Information: 87798

Microsporidia Stain

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Duodenal aspirate (small intestinal aspirate, jejunal aspirate, small bowel aspirate)
Container/Tube: Sterile container
Specimen Volume: 0.5 mL
Additional Information: Ecofix and 10% formalin are acceptable preservatives.
Specimen Stability Information: Preserved Ambient (preferred) <10 days/Refrigerated <3 days/Frozen

Specimen Type: Respiratory secretions (bronchoalveolar lavage [BAL], sputum, bronchial
wash, pleural fluid) Container/Tube: Sterile container Specimen Volume: 0.5 mL
Specimen Stability Information: Refrigerated < 3 days (preferred)/Frozen < 10 days
Specimen Type: Eye (vitreous fluid, corneal swab or scraping, ocular fluid) Container/Tube: Sterile container or swab Specimen Volume: 0.5 mL
Specimen Stability: Refrigerated < 3 days
Specimen Type: Fresh tissue (lung, eye, bladder, rectal, intestinal, colon, skin, muscle, kidney) Container/Tube: Sterile container Specimen Volume: 3-mm biopsy in 0.1-mL sterile saline Specimen Stability: Refrigerated < 3 days Specimen Type: Gallbladder aspirate Container/Tube: Sterile container Specimen Volume: 0.5 mL Specimen Stability: Refrigerated < 3 days/Frozen < 10 days

**Specimen Minimum Volume:** Duodenal aspirate, gallbladder aspirate, respiratory secretions, eye fluid: 0.5 mL

**Transport Temperature:**
Varies

**CPT Code Information:** 87015-Concentration; 87207-Stain;

**FMIDZ 90112**

**Midazolam (Versed), serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

**CPT Code Information:** 80346; G0480 (if appropriate);

**FMCG4 57536**

**Milk Cow IgG4**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

**CPT Code Information:** 86001

**MILK 82871**

**Milk, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Milk, Processed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Mint (Mentha Piperita) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**Mirtazapine (Remeron)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days

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Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 720
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80335

ZW69

Misc Viracor Eurofins Clinical Diag

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies

CPT Code Information: Varies

ZW199

Misc Alfred I duPont Hospital for Children

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:
Varies

CPT Code Information: Varies

ZW200

Misc All Childrens Hospital - Florida

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:
Varies

CPT Code Information: Varies
**Misc Arkansas Children's Hospital Testing**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

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**Misc Baylor Cytogenetics Laboratory**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

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**Misc Baylor John Welsh Cardiovascular Diag Lab**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

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**Misc Center for Human Genetics**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or
the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW204**

**Misc Cincinnati Childrens Hospital Medical Center**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW59**

**Misc Esoterix Endocrinology**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW73**

**Misc Johns Hopkins-DACI Ref Lab**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies Varies

ZW147 90586 Misc Johns Hopkins-DNA Analysis Lab

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies Varies

ZW150 91201 Misc Johns Hopkins-Molecular Microbiology

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies Varies

ZW179 91403 Misc Medical Neurogenetics, LLC

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
**CPT Code Information:** Varies

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**ZW149**

**Misc Monogram Biosciences, Inc.**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:** Varies Varies

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**ZW117**

**Misc National Genetics Inst Testing**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:** Varies Varies

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**ZW196**

**Misc National Jewish Health Mycobacteriology Test**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:** Varies Varies

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**CPT Code Information:** Varies

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**Misc Ohio State Univ Ref Lab Test**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering  
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies

**CPT Code Information:** Varies

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**Misc Prometheus Laboratories Test**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering  
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies

**CPT Code Information:** Varies

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**Misc Seattle Children's Hospital Laboratories**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering  
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies Varies

**CPT Code Information:** Varies

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**Misc Univ of PA School of Medicine**

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Specimen Requirements: Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature: Varies

CPT Code Information: Varies

ZW119
90558

Misc University of Florida Testing

Specimen Requirements: Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature: Varies

CPT Code Information: Varies

ZW213
75195

Misc University of Michigan (MLabs)

Specimen Requirements: Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature: Varies

CPT Code Information: Varies

ZW190
91598

Miscellaneous Alfred I duPont Gastroenterology

Specimen Requirements: Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.
requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:
Varies

CPT Code Information: Varies

ZW185
91516

Miscellaneous Ambry Genetics

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:
Varies

ZW242
57378

Miscellaneous ARUP Testing

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type

Transport Minimum Volume: Varies

CPT Code Information: Varies

ZW294
75264

Miscellaneous Asuragen Clinical Services

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies
Transport Temperature:
Varies Varies

CPT Code Information: Varies

**ZW127 90566**

**Miscellaneous Athena Testing**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

**ZW53 90492**

**Miscellaneous Baylor Institute of Metabolic Disease**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

**ZW221 57103**

**Miscellaneous Baylor Medical Genetics Laboratories**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies Varies
**CPT Code Information:** Varies

**ZW285 75162**

**Miscellaneous Bio Reference Laboratories Inc. Manual**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies

**CPT Code Information:** Varies

**ZW121 90560**

**Miscellaneous BloodCenter of WI Testing**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies

**CPT Code Information:** Varies

**ZW154 91265**

**Miscellaneous Buffalo General Hospital**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the Referral Catalog (CRM). If unable to find the correct test, request forms, or specimen requirements, call 800-533-1710. NOTE: Provide when ordering 1. Test name  2. Performing lab code  3. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Call 800-533-1710 for required forms

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies

**CPT Code Information:** Varies
**Miscellaneous Cambridge Biomedical**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies  

**CPT Code Information:** Varies  

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**Miscellaneous Center for Genetic Testing at St. Francis**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies  

**Transport Temperature:**

Varies  

**CPT Code Information:** Varies  

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**Miscellaneous Chemistry Testing**

**Specimen Requirements:** Varies  

**Specimen Minimum Volume:** Varies  

**Transport Temperature:**

Varies  

**CPT Code Information:** 84999 (See CPT Coding in Special Instructions)  

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**Miscellaneous Child Hosp-Philadelphia**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies  

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Transport Temperature:
Varies

CPT Code Information: Varies

ZW140
90579
Miscellaneous Child Med Ctr Dallas

Specimen Requirements: Varies
This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering:
1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies

CPT Code Information: Varies

ZW163
91291
Miscellaneous Children's Hospital of Philadelphia (CHOP)

Specimen Requirements: Varies
This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering:
1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies

CPT Code Information: Varies

ZW299
76271
Miscellaneous Childrens Hospital Los Angeles

Specimen Requirements: Varies
This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering:
1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
**CPT Code Information:** Varies

**ZW246**

**Miscellaneous Childrens Hospital of Colorado Testing**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies

**CPT Code Information:** Varies

**MCTGC**

**Miscellaneous Chlamydia trachomatis and Neisseria gonorrhoeae by Nucleic Acid Amplification**

**Specimen Requirements:** Swab specimens must be collected using an Aptima Collection Unisex Swab (T583), or Aptima Collection Multitest Swab (T584). These swabs are contained in the Aptima Collection Kit. Submit only 1 of the following specimens: Supplies: Swab, Aptima Male/Female Collection (T583) Swab, Aptima Multitest Swab Specimen Collection Kit (T584, formerly called Aptima Vaginal Swab Specimen Collection Kit) Specimen Type: Oral/throat or ocular (corneal/conjunctiva) or rectal/anal Container/Tube: Aptima Collection Multitest Swab (T584) or Aptima Swab Collection System (T583) Specimen Volume: Swab Collection Instructions: 1. Swab site using Aptima Collection Multitest Swab (T584) or Aptima Collection Unisex Swab (T583). Note: The white swab provided within the collection kit is a cleaning swab and should not be used for collection. Discard the white cleaning swab. 2. Place swab in transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 3. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 4. Transport swab container to laboratory and store (refrigerated is preferred) within 60 days of collection. Supplies: Aptima Thin Prep Transport Tube (T652) Specimen Type: Peritoneal fluid (pelvic wash, cul-de-sac fluid) Container/Tube: Aptima Specimen Transfer Tube (T652) Specimen Volume: 1 mL Collection Instructions: 1. Transfer specimen into the Aptima Specimen Transfer Tube (T652) within 24 hours of collection. 2. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 3. Transport Aptima Specimen Transfer Tube to laboratory (refrigerated is preferred) within 30 days of collection.

**Specimen Minimum Volume:** Oral/Throat, Ocular, Rectal/Anal: Entire Collection Peritoneal Fluid: 1 mL

**Transport Temperature:**

Varies Refrigerated (preferred)

Ambient

Frozen
**CPT Code Information:** MCRNA-87491; MGRNA-87591;

**ZW166 91294**

**Miscellaneous CHMC - Setchell**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

NOTE: Provide when ordering  
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

**ZW239 57180**

**Miscellaneous Cincinnati Children's Hospital Medical Center-Hematology/Oncology**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

NOTE: Provide when ordering  
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

**ZW279 58083**

**Miscellaneous Cincinnati Children's Nephrology**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

NOTE: Provide when ordering  
1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies
Miscellaneous City of Hope Testing

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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Miscellaneous Connective Tissue Gene Tests Lab (CTGT)

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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Miscellaneous Correlagen Diagnostics

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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Miscellaneous DIANON Systems

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies
requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies

CPT Code Information: Varies

ZW58
90497

Miscellaneous Duke University

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies

CPT Code Information: Varies

ZW116
90555

Miscellaneous EGL Genetic Diagnostics Laboratory

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies

CPT Code Information: Varies

ZW57
90496

Miscellaneous Esoterix Coagulation

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent
and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW63 90502**

**Miscellaneous Esoterix Genetic Laboratories, LLC - MA Testing**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

**NOTE:** Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW189 91561**

**Miscellaneous Esoterix Genetic Laboratories, LLC - NY Testing**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

**NOTE:** Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW225 57161**

**Miscellaneous Exagen Diagnostics**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

**NOTE:** Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

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consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

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**ZW168 91296**

**Miscellaneous GeneDx, Inc. Testing**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the Referral Catalog (CRM). If unable to find the correct test, request forms, or specimen requirements, call 800-533-1710. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Call 800-533-1710 for required forms 4. Specimen type

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

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**ZW208 91853**

**Miscellaneous Genetic Assays Inc.**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

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**ZW182 91278**

**Miscellaneous Genova Diagnostics**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies Varies
CPT Code Information: Varies

**ZW68**

**90507**

**Miscellaneous Greenwood Genetic Ctr**

**Specimen Requirements:** Varies   This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies

CPT Code Information: Varies

**ZW218**

**91896**

**Miscellaneous Harvard Medical School**

**Specimen Requirements:** Varies   This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies Varies

CPT Code Information: Varies

**ZW143**

**90582**

**Miscellaneous IMMC0 Diagnostics**

**Specimen Requirements:** Varies   This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies Varies
**Miscellaneous Immunoassay Testing**

**Specimen Requirements:** Call 800-533-1710 or 507-266-5700 for specific collection and shipping information.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies  Varies

**CPT Code Information:** Varies

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**Miscellaneous IMUGEN Inc Testing**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering  1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies  Varies

**CPT Code Information:** Varies

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**Miscellaneous INFORM DIAGNOSTICS, INC**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering  1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies  Varies

**CPT Code Information:** Varies

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**Miscellaneous Inter Science Institute**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering  1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please
contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW298**

**75278**

**Miscellaneous IntrinsicDx**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW290**

**75217**

**Miscellaneous Invitae Corporation**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**ZW173**

**91305**

**Miscellaneous Joli Diagnsotics, Inc.**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information,
family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**ZW300 75311**

**Miscellaneous Karius Laboratory**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**ZW175 91323**

**Miscellaneous Kennedy Krieger Institute**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**ZW74 90513**

**Miscellaneous Kennedy Krieger Institute-Peroxisomal Diseases Laboratory**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.
Miscellaneous Knight Diagnostic Laboratories

**ZW241**

**57268**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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Miscellaneous LabCorp of America

**ZW76**

**90515**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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Miscellaneous LabCorp-RTP,NC

**ZW113**

**90552**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies
<table>
<thead>
<tr>
<th>Specimen Requirements</th>
<th>Transport Temperature</th>
<th>CPT Code Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
</tr>
<tr>
<td>This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. <strong>NOTE:</strong> Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.</td>
<td>Varies</td>
<td>Varies</td>
</tr>
</tbody>
</table>
**Miscellaneous Medical Coll of WI**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**  
Varies  

**CPT Code Information:** Varies

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**Miscellaneous Medtox Laboratories, Inc.**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**  
Varies  

**CPT Code Information:** Varies

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**Miscellaneous MiraVista Diagnostics**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**  
Varies  

**CPT Code Information:** Varies

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**Miscellaneous MML Referral Test 1**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific
requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:

Varies  
Varies  
Varies

ZW2  
99992  

Miscellaneous MML Referral Test 2

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:

Varies  
Varies  
Varies

CPT Code Information: Varies

ZW3  
99993  

Miscellaneous MML Referral Test 3

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:

Varies  
Varies  
Varies

ZW227  
57163  

Miscellaneous National B Virus Resource Laboratory

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.
Transport Temperature:
Varies

CPT Code Information: Varies

**ZW85 90524**

**Miscellaneous National Jewish Health**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**ZW86 90525**

**Miscellaneous NMS Testing**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**ZW211 91858**

**Miscellaneous Ohio State Univ Molecular Pathology**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
CPT Code Information: Varies

ZW289
Miscellaneous OneOme, LLC

Specimen Requirements: Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies Varies

CPT Code Information: Varies

ZW214
Miscellaneous Oregon Health and Science University Ocular Immunology Laboratory

Specimen Requirements: Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:
Varies Varies

CPT Code Information: Varies

ZW129
Miscellaneous Pacific Rim Pathology Medical Corp

Specimen Requirements: Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies Varies
CPT Code Information: Varies

**ZW87**

**90526**

**Miscellaneous Palo Alto Testing**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

CPT Code Information: Varies

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**ZW224**

**57157**

**Miscellaneous PerkinElmer Genetics, Inc.**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

CPT Code Information: Varies

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**ZW194**

**91602**

**Miscellaneous Prevention Genetics Lab**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

CPT Code Information: Varies
**Miscellaneous Quest Diagnostics Infectious Disease, Inc.**

**Specimen Requirements:** Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

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**Miscellaneous Quest Diagnostics Valencia**

**Specimen Requirements:** Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

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**Miscellaneous Quest Testing**

**Specimen Requirements:** Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**
Varies Varies

**CPT Code Information:** Varies

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**Miscellaneous Quest/Nichols Testing**

**Specimen Requirements:** Varies. This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.
form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**ZW164 91292**

**Miscellaneous RDL Reference Laboratory, Inc.**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**ZW91 90530**

**Miscellaneous RFFIT Testing**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type

**Transport Temperature:**
Varies

**CPT Code Information:** Varies

**MISCF 35267**

**Miscellaneous Studies Using Chromosome-Specific Probes, FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20-25 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. Provide gestational age at the time of amniocentesis. 2. Discard the first 2 mL of amniotic fluid. Additional Information: 1. Place the tubes in a Styrofoam container (T329). 2. Fill remaining space with packing material. 3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 4. Bloody specimens are undesirable. 5. If the specimen does not grow in culture, you will be notified
within 7 days of receipt. 6. Results will be reported and also telephoned or faxed, if requested.

**Specimen Type:** Blood  
**Container/Tube:** Green top (sodium heparin)  
**Specimen Volume:** 5 mL  
**Collection Instructions:** 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.  

**Specimen Type:** Bone marrow  
**Container/Tube:** Green top (sodium heparin)  
**Specimen Volume:** 1-2 mL  
**Collection Instructions:** 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.  

**Specimen Type:** Chorionic villi  
**Container/Tube:** 15-mL tube containing 15 mL of transport media  
**Specimen Volume:** 20-30 mg  
**Collection Instructions:** 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer the chorionic villi to a Petri dish containing transport medium. 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua.  

**Specimen Type:** Lymph node  
**Container/Tube:** Sterile container with sterile Hank’s balanced salt solution (T132), Ringer’s solution, or normal saline.  
**Specimen Volume:** 1 cm(3)  

**Specimen Type:** Skin biopsy  
**Container/Tube:** Sterile container with sterile Hank’s balanced salt solution (T132), Ringer’s solution, or normal saline.  
**Specimen Volume:** 4-mm diameter  
**Collection Instructions:** 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis.  

**Specimen Type:** Tissue block or slide Preferred: Formalin-fixed, paraffin-embedded tumor tissue block and 1 hematoxylin and eosin (H and E)-stained slide. Acceptable: Four consecutive, unstained, 5-micron thick sections placed on positively charged slides and 1 H and E-stained slide.  

**Specimen Type:** Tumor  
**Container/Tube:** Sterile container with sterile Hank’s balanced salt solution (T132), Ringer’s solution, or normal saline.  
**Specimen Volume:** 0.5-3 cm(3) or larger  

**Specimen Minimum Volume:**  
- Amniotic Fluid: 5 mL  
- Blood: 2 mL  
- Bone Marrow: 1 mL  
- Chorionic Villi: 5 mg  
- Lymph Node: 0.5 cm(3)  
- Solid Tumor: 0.5 cm(3)  

**Transport Temperature:**  
- Varies  
- Ambient (preferred)  
- Refrigerated  

**CPT Code Information:**  
- 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report;  
- 88271x2 – DNA probe, each; each additional probe set (if appropriate);  
- 88271x1 – DNA probe, each; coverage for sets containing 3 probes (if appropriate);  
- 88271x2 – DNA probe, each; coverage for sets containing 4 probes (if appropriate);  
- 88271x3 – DNA probe, each; coverage for sets containing 5 probes (if appropriate);  
- 88273 w/modifier 52-Chromosomal in situ hybridization, less than 10 cells (if appropriate);  
- 88273-Chromosomal in situ hybridization, 10-30 cells (if appropriate);  
- 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate);  
- 88274 – Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate);  
- 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);  

**Miscellaneous Transgenomic**  
**Specimen Requirements:** Varies  
- This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal).  
- If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  
- NOTE: Provide when ordering  
  1. Test name  
  2. Performing lab code  
  3. Specimen Type  
  4. Required consent and/or requisition form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.  

**Transport Temperature:**  
- Varies  
- Varies  

**CPT Code Information:** Varies
**Azimuth U of TX San Ant Test**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**Miscellaneous UCSF Medical Center**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**Miscellaneous UF Health Medical Lab-Shands Hospital**

**Specimen Requirements:** Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name
2. Performing lab code
3. Specimen Type
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies
ZW292 Miscellaneous UNC Center for AIDS Research Clinical Pharmacology & Analytical Chemistry Laboratory

Specimen Requirements: Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:

Varies Varies

CPT Code Information: Varies

ZW99 Miscellaneous Univ of AL Testing

Specimen Requirements: Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:

Varies Varies

CPT Code Information: Varies

ZW210 Miscellaneous Univ of IA Molecular Otolaryngology

Specimen Requirements: Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering

1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:

Varies Varies

CPT Code Information: Varies

ZW128 Miscellaneous University Hospital Clinical Lab Test

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements,
please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:

Varies

CPT Code Information: Varies

ZW234

57175

Miscellaneous University of Alabama at Birmingham

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:

Varies

CPT Code Information: Varies

ZW186

91515

Miscellaneous University of Chicago Genetics Services

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM). If unable to find the correct test, request forms, or specimen requirements, call 800-533-1710. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Call 800-533-1710 for required forms 4. Specimen type

Transport Temperature:

Varies

CPT Code Information: Varies

ZW187

91514

Miscellaneous University of Iowa Diagnostic Labs

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Transport Temperature:
**ZW61**

**Miscellaneous University of Minnesota Outreach Laboratory**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**  
Varies  
Varies

**CPT Code Information:** Varies

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**ZW238**

**Miscellaneous University of Southern California Endocrine Laboratories**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**  
Varies  
Varies

**CPT Code Information:** Varies

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**ZW191**

**Miscellaneous University of Texas Health Center at Tyler Microbiology**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  NOTE: Provide when ordering

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**  
Varies  
Varies

**CPT Code Information:** Varies
**Miscellaneous University of Utah Genome Center**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**Miscellaneous University of Virginia Health System**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies

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**Miscellaneous University of Washington Medical Center (UW Virology Dept of Lab Medicine)**

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering 1. Test name  2. Performing lab code  3. Specimen Type  4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**

Varies

**CPT Code Information:** Varies
Miscellaneous University of Washington Medical Center-Clinical Immunology Lab

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**  
Varies

**CPT Code Information:** Varies

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Miscellaneous UPMC Molecular and Genomic Pathology

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**  
Varies

**CPT Code Information:** Varies

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Miscellaneous Yale Univ Testing

**Specimen Requirements:** Varies  This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700.  

1. Test name  
2. Performing lab code  
3. Specimen Type  
4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

**Specimen Minimum Volume:** Varies

**Transport Temperature:**  
Varies

**CPT Code Information:** Varies
Mismatch Repair (MMR) Protein Immunohistochemistry Only, Tumor

**Specimen Requirements:** Tumor tissue is required. Specimen Type: Tissue block and slide
Collection Instructions: 1. Submit formalin-fixed, paraffin-embedded tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 10 unstained, nonbaked slides (5-micron thick sections) of the tumor tissue. 2. Sections should contain tumor tissue.

**Transport Temperature:**
Varies Ambient  
(Frozen)  
Refrigerated

**CPT Code Information:** MLH-1, Immunostain; 88341 (if appropriate); MSH-2, Immunostain; 88341 (if appropriate); MSH-6, Immunostain; 88341 (if appropriate); PMS-2, Immunostain; 88342 (if appropriate);

MITF Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient  
(preferred)  
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Mitochondrial Antibodies (M2), Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days  
Frozen 21 days

**CPT Code Information:** 83516

Mitochondrial Full Genome Analysis by Next-Generation Sequencing (NGS)

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an
allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Supplies: Fibroblast Biopsy Transport Media (T115) Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Supplies: Fibroblast Biopsy Transport Media (T115) Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Supplies: Muscle Biopsy Kit (T541) Specimen Type: Muscle Tissue biopsy Collection Instructions: Prepare and transport specimen per instructions in Muscle Biopsy Specimen Preparation Sheet in Special Instructions. Specimen Volume: 10-80mg Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated Specimen Type: Snap Frozen Nerve Tissue Biopsy Collection Instructions: Prepare snap frozen tissue biopsy per surgical procedure Specimen Volume: 0.25-0.5 cm Specimen Stability Information: Frozen Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Specimen Type: Blood spot Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Supplemental Newborn Screening Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient older than 1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions. Specimen Minimum Volume: Blood: 1 mL Muscle tissue biopsy: 20 mg Nerve tissue biopsy: See Specimen Required. Blood Spots: 5 punches-3 mm diameter Transport Temperature: Varies Varies CPT Code Information: 81460

MITON 64979

Mitochondrial Nuclear Gene Panel by Next-Generation Sequencing (NGS)

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Supplies: Muscle Biopsy Kit (T541) Collection Instructions: Prepare and transport specimen per instructions in Muscle Biopsy Specimen Preparation Sheet in Special Instructions. Additional Information: Muscle Biopsy Shipping Kits
(T541) are available. Specimen Volume: 10-80 mg Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 1 mL Tissue Biopsy: 200 mg

**Transport Temperature:**
Varies

**CPT Code Information:** 81440

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**FETCE 91844**

**Mitochondrial Respiratory Chain Enzyme Analysis (ETC) - Skin Fibroblasts**

**Specimen Requirements:** Cultured Fibroblasts 3 T-25 flasks(s) filled to neck with culture media. Maintain sterility and forward promptly at ambient temperature. Complete and submit with specimen: 1. Baylor Mitochondrial request form.

**Transport Temperature:**
Fibroblasts Ambient

**CPT Code Information:** 84311 x 6; 82657 x 6; 88233; 88240;

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**FMITO 91130**

**Mitotane (Lysodren)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days

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<td>180 days</td>
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<td>Ambient</td>
<td>72 hours</td>
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**CPT Code Information:** 80375

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**MLH1I 35493**

**MLH-1, Immunostain (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies

**CPT Code Information:** 88341

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**MLH1Z 35499**

**MLH1 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an
allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81292-MLH1 (mutL homolog 1, colon cancer, nonpolyposis type 2) (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) gene analysis; full sequence analysis; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

**BMLHH**

**MLH1 Hypermethylation Analysis (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies

**CPT Code Information:** 81288-MLH1 promoter methylation analysis;

**MLHPB**

**MLH1 Hypermethylation Analysis, Blood**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81288

**ML1HM**

**MLH1 Hypermethylation Analysis, Tumor**

**Specimen Requirements:** This test is only performed on colon or endometrial tumors with
confirmed loss of MLH1 protein expression. Extracted DNA from tissues is NOT an acceptable specimen type. Pathology report must accompany specimen in order for testing to be performed. Specimen Type: Tissue block or slide Collection Instructions: 1. Submit formalin-fixed, paraffin-embedded tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 10 unstained, nonbaked slides (5-micron thick sections) of the tumor tissue. 2. Sections should contain tumor tissue.

Transport Temperature:
Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: 81288; 88381;

MLH1 Hypermethylation and BRAF Mutation Analysis, Tumor Specimen Requirements: This test is only performed on colon tumors with confirmed loss of MLH1 protein expression. Extracted DNA from tissues is NOT an acceptable specimen type. Pathology report must accompany specimen in order for testing to be performed. Specimen Type: Tissue block or slide Collection Instructions: 1. Submit formalin-fixed, paraffin-embedded tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 10 unstained, nonbaked slides (5 micron-thick sections) of the tumor tissue. 2. Sections should contain both tumor and normal tissue.

Transport Temperature:
Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: Slide Review; 88381-Microdissection, manual; 81210-BRAF (v-raf murine sarcoma viral oncogene homolog B1) (eg, colon cancer), gene analysis, V600E variant, if appropriate; 81288-MLH1 promoter methylation analysis, if appropriate;

MLH1 Immunostain, Technical Component Only Specimen Requirements: Specimen Type: Tissue Supplies: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

MLH3 Gene, Full Gene Analysis Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who
have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology code ; ; Additional Tests; Hereditary Colon Cancer CGH Array; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

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**MLYCZ**

**MLYCD Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies
- Ambient
- Refrigerated

**CPT Code Information:** 81479 - Unlisted molecular pathology procedure; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

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**MMRV**

**MMRV Immune Status Profile, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days
CPT Code Information: 86735-Mumps virus antibody, IgG; 86762-Rubella antibodies, IgG; 86765-Measles (rubeola) antibodies, IgG; 86787-Varicella-Zoster antibody, IgG;

MOC31
70505
MOC-31 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

MOLD1
81878
Mold Panel

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

MINT
61696
Molecular Interpretation

Specimen Requirements:

Transport Temperature:
Whole blood Refrigerated 30 days

CPT Code Information:

MOWB
64272
Molybdenum, Blood

Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Collection Container/Tube: Preferred: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: 0.8 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

Specimen Minimum Volume: 0.25 mL
**Transport Temperature:**
Whole blood  Refrigerated (preferred)  28 days

- Ambient  28 days
- Frozen  28 days

**CPT Code Information:** 83018

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**MOLPS**

**Molybdenum, Serum**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1.6 mL Collection Instructions: 1. Allow specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum  Refrigerated (preferred)  14 days

- Ambient  14 days
- Frozen  14 days

**CPT Code Information:** 83018

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**FMNM**

**Monoamine Neurotransmitter Metabolites/Amines**

**Specimen Requirements:** REQUIRED: 1. Baylor collection kit (MML Supply T612) required. Each collection kit contains 5 microcentrifuge tubes in a cardboard holder. Tube #3 contains antioxidants necessary to protect the same integrity. One set of tubes is required per patient. Baylor request form and collection protocol. Collection date Date of birth Current medications and relevant history COLLECTION PROTOCOL 1) CSF should be collected from the first drop into the tubes in the numbered order. Fill each tube to the marked line with the required volumes. Tube 1: 0.5 mL Tube 2: 0.5 mL Tube 3: 1.0 mL (contains antioxidants necessary to protect the sample integrity) Tube 4: 1.0 mL Tube 5: 0.5 mL - If samples not blood contaminated should be placed on dry ice at bedside - If samples are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes, then frozen. -Store samples at -80 until they can be shipped. 2) Complete Baylor Neuropharmacology request form. Include test required, sample date, date of birth, current medications and relevant history. 3) Label tubes with patient name and ID number, leaving the tube number viewable. 4) Place samples inside a specimen transport bag and the Baylor request forms inside the pouch of the transport bag. 5) Ship samples frozen on dry ice.

**Transport Temperature:**
CSF  Frozen
Monoclonal Gammopathy Monitoring, Serum

Specimen Requirements: Patient Preparation: Fasting (12 hour) preferred but not required
Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

CPT Code Information: 82542

Monoclonal Gammopathy Screen, Serum

Specimen Requirements: Patient Preparation: Fasting (12 hour) preferred but not required
Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL

Specimen Minimum Volume: 1.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 72 hours

CPT Code Information: 84155; 84165; 84999 (if appropriate); 86334 (if appropriate);

Monoclonal Protein Study, 24 Hour, Urine

Specimen Requirements: Supplies: Aliquot Tube, 5 mL (T465) Submission Container/Tube: Plastic, 60-mL urine bottle and plastic, 5-mL tube (T465) Specimen Volume: 50 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Aliquot specimen between containers. 3. Label specimens appropriately (60-mL bottle for protein electrophoresis and immunofixation and 5-mL tube for protein, total). Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: 25 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days
Frozen 5 days
Ambient 72 hours

CPT Code Information: 83883 x 2; 84155; 84165; 84999; 86334 (if appropriate);

8823-Immunofixation;
Monoclonal Protein Study, Expanded Panel, Serum

**Specimen Requirements:** Patient Preparation: Fasting preferred but not required Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 83883 x 2-Nephelometry, each analyte not elsewhere specified; 84155-Protein, total; 84165-Protein, electrophoresis; 86334-Immunofixation;

Monoclonal Protein Study, Random, Urine

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 60-mL urine bottle and plastic, 5-mL tube (T465) Specimen Volume: 50 mL Collection Instructions: 1. Collect a random urine specimen. 2. Aliquot specimen between containers. 3. Label specimens appropriately (60-mL urine bottle for protein electrophoresis and immunofixation and 5-mL tube for protein, total). Additional Information: 1. Random urine, no volume is required. 2. Refrigerate specimen during collection and send refrigerated.

**Specimen Minimum Volume:** 25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 5 days
- Ambient 72 hours

**CPT Code Information:** 84156-Protein, total; 84166-Electrophoresis, protein; 86335-Immunofixation;

Monoclonal Protein Study, Serum

**Specimen Requirements:** Patient Preparation: Fasting preferred but not required Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 84155-Protein, total; 84165-Protein electrophoresis; 86334-Immunofixation;

Morph Analysis, Automated (Bill Only)

Current as of October 16, 2018 7:53 pm CDT
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

Transport Temperature:
Varies
Ambient (preferred)
Refrigerated

CPT Code Information: 88361

MAMPC Morph Analysis, Manual (Bill Only)
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

CPT Code Information: 88360

MANPC Morph Analysis, Nerve (Bill Only)
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

CPT Code Information: 88356

FMORS Morphine Confirmation, Serum
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 2 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80361

SPSM Morphology Evaluation (Special Smear)
Specimen Requirements: Container/Tube: Slides Specimen Volume: 5 unstained, well-made peripheral blood smears (fingerstick blood) Collection Instructions: If peripheral blood smears (fingerstick blood) is not available, a smear from EDTA blood will be accepted.

Specimen Minimum Volume: Smears: 2

Transport Temperature:
Whole blood Ambient (preferred)
**Refrigerated**

**CPT Code Information:** 85007; 85060 (if appropriate); 85027 (if appropriate); 89240- (if appropriate); 88184- (If appropriate); 88185-(if appropriate) ; 88187- (if appropriate); 88188- (if appropriate); 88189- (if appropriate);

**MSPP 82845**

**Mosquito Species, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**MOTH 82738**

**Moth, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**FMOT 90157**

**Motilin, Plasma or Serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top or serum gel tube(s). Separate immediately and send 3 mL of serum frozen in a plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Plasma Draw blood in a lavender-top (EDTA) tube(s). Separate immediately and send 3 mL of EDTA plasma frozen in a plastic vial. Note: 1. Indicate plasma on request form. 2. Label specimen appropriately (plasma). Patient preparation: 1) Patient should be fasting 10 - 12 hours prior to collection of specimen 2) Patient should not be on any antacid medication or medications affecting intestinal motility, if possible, for at least 48 hours prior to collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Frozen 180 days
Motor Neuron Disease Panel (Bill Only)
**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81403; 81404; 81405; 81406 x 4; 81479 ;

Motor Neuropathy Panel
**Specimen Requirements:** Draw blood in a serum gel tube(s). Spin down and send 4 mL serum refrigerated in plastic vial.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum SST Refrigerated (preferred) 14 days
- Frozen 365 days

**CPT Code Information:** 82784 x 3; 83516 x 7; 84160; 84165; 86334;

Mountain Cedar, IgE
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Mouse Epithelium, IgE
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003
**Mouse Serum Protein, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**Mouse Urine Protein, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**Movement Disorder Evaluation, Serum**

**Specimen Requirements:** Patient Preparation: For optimal antibody detection, we recommend blood drawing the specimen before initiation of immunosuppressant medication. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 4 mL

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 83519 x4; 86255 x14; 84182 x1; 86341 x1; 86255 x6 (if appropriate); 86256 x4 (if appropriate); 84182 x2 (if appropriate);

**Movement Disorder Evaluation, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile Vial Specimen Volume: 4 mL
Specimen Minimum Volume: 3.5 mL

Transport Temperature:
CSF Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

CPT Code Information: 83519 x1; 86255 x14; 84182 x1; 86341 x1; 86255 x5 (if appropriate); 86256 x4 (if appropriate); 84182 x2 (if appropriate);

MPLB
89776
MPL Exon 10 Mutation Detection, Blood
Specimen Requirements: Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Whole blood Ambient (preferred) 7 days
- Refrigerated 7 days

CPT Code Information: 83519-MPL (myeloproliferative leukemia virus oncogene, thrombopoietin receptor, TPOR) (eg, myeloproliferative disorder), exon 10 sequence

MPLM
60024
MPL Exon 10 Mutation Detection, Bone Marrow
Specimen Requirements: Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Bone Marrow Ambient (preferred) 7 days
- Refrigerated 7 days

CPT Code Information: 83519-MPL (myeloproliferative leukemia virus oncogene, thrombopoietin receptor, TPOR) (eg, myeloproliferative disorder), exon 10 sequence

MPLR
36682
MPL Exon 10 Mutation Detection, Reflex
Specimen Requirements: Only orderable as a reflex. For more information see MPNR / Myeloproliferative Neoplasm (MPN), JAK2 V617F with reflex to CALR and MPL.

Specimen Minimum Volume: Blood and Bone marrow: 0.5 mL

Transport Temperature:
Varies Varies 7 days

CPT Code Information: 83519-MPL (myeloproliferative leukemia virus oncogene,
MPL Exon 10 Mutation Detection, Varies

**Specimen Requirements:** Specimen Type: Extracted DNA from blood or bone marrow
Container/Tube: 1.5- to 2- mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of DNA. Specimen Stability Information: Refrigerated/Ambient

**Transport Temperature:** Varies

**CPT Code Information:** 81403-MPL (myeloproliferative leukemia virus oncogene, thrombopoietin receptor, TPOR) (eg, myeloproliferative disorder), exon 10 sequence

MPL Exon 10 Sequencing, Reflex

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood
Container/Tube: Lavender top (EDTA) or yellow top (ACD solution B) Specimen Volume: 4 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Bone marrow
Container/Tube: Lavender top (EDTA) or yellow top (ACD solution B) Specimen Volume: 2 mL
Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of the DNA. Specimen Stability: Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume:** Blood/Bone marrow: 0.5 mL

**Transport Temperature:** Varies 5 days

**CPT Code Information:** 81403-MPL (myeloproliferative leukemia virus oncogene, thrombopoietin receptor, TPOR) (eg, myeloproliferative disorder), exon 10 sequence

MSH-2, Immunostain (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:** Varies

**CPT Code Information:** 88341

MSH-6, Immunostain (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:** Varies
**CPT Code Information:** 88341

**MSH2Z 35510**

**MSH2 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81295-MSH2 (mutS homolog 2, colon cancer, nonpolyposis type 1) (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) gene analysis; full sequence analysis; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, bacterial artificial chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

**MSH2 70512**

**MSH2 Immunostain, Technical Component Only**

**Specimen Requirements:** Specimen Type: Tissue Supplies: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**MSH6Z 35513**

**MSH6 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.

**Specimen Minimum Volume:** 1 mL
Transport Temperature:
Varies
(Ambient (preferred))
Frozen
Refrigerated

CPT Code Information: 81298-MSH6 (mutS homolog 6[E.coli]) (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) gene analysis; full sequence analysis; ; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, bacterial artificial chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

MSH6
MSH6 Immunostain, Technical Component Only
Specimen Requirements: Specimen Type: Tissue Supplies: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient
(Ambient (preferred))
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

MPCPD
mSMART, Plasma Cell Proliferative Disorder (PCPD), FISH
Specimen Requirements: Only orderable as part of a profile. For more information see MSMRT / Mayo Algorithmic Approach for Stratification of Myeloma and Risk-Adapted Therapy Report.
Specimen Minimum Volume: 2 mL
Transport Temperature:
Bone Marrow Ambient
(Ambient (preferred))
Refrigerated

CPT Code Information: 88271x2, 88291 - DNA probe, each; each additional probe set (if appropriate); 88271x1 - DNA probe, each; each additional probe set (if appropriate); 88271x2 - DNA probe, each; each additional probe set (if appropriate); 88271x3 - DNA probe, each; each additional probe set (if appropriate); 88274 w/modifier 52 - Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 - Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 - Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

MTBVP
Mtb PZA Confirmation, pncA Sequencing (Bill Only)
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.
Transport Temperature:
Varies
Varies
**MUCN4**

**Mucin 4, Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 87153

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**MCIVP**

**Mucolipidosis IV, Mutation Analysis, IVS3(-2)A->G and del6.4kb**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2.6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Prenatal Specimen Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 0.5 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

**Transport Temperature:**
Varies Varies

**CPT Code Information:** 81290-MCOLN1 (mucolipin 1) (eg, Mucolipidosis, type IV) gene analysis, common variants (eg, IVS3-2A->G, del16.4kb); Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

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**MQLNR**

**Mucopolysaccharides (MPS) Qualitative, Urine**

**Specimen Requirements:** Only orderable as part of a profile. See LYSDU / Lysosomal Storage
Disorders Screen, Urine. For information regarding qualitative mucopolysaccharides, see MPSSC / Mucopolysaccharides (MPS) Screen, Urine. Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 1 mL Pediatric Volume: 0.5 mL Collection Instructions: 1. Collect a random urine specimen (early morning preferred). 2. Immediately freeze specimen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Urine Frozen 365 days

**CPT Code Information:** 82542

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**MPSSC**

**Mucopolysaccharides (MPS) Screen, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen (early morning preferred). 2. Immediately freeze specimen.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Urine Frozen 365 days

**CPT Code Information:** 83864; 82542;

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**MPSQN**

**Mucopolysaccharides (MPS), Quantitative, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 2 mL Collection Instructions: Collect a random urine specimen (early morning preferred).

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
Urine Frozen (preferred) 365 days

Refrigerated 15 days

**CPT Code Information:** 83864

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**MQNNR**

**Mucopolysaccharides (MPS), Quantitative, Urine**

**Specimen Requirements:** Only orderable as part of a profile. See LYSDU / Lysosomal Storage Disorders Screen, Urine. For information regarding quantitative mucopolysaccharides, see MPSQN / Mucopolysaccharides (MPS), Quantitative, Urine. Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 2 mL Pediatric Volume: 1 mL Collection Instructions: 1. Collect a random urine specimen (early morning preferred). 2. Immediately freeze specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Frozen (preferred) 365 days

Refrigerated 15 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedical Laboratories.com
**Mucopolysaccharidosis III, Multi-Gene Panel**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred:

- **Specimen Type:** Whole blood
- **Container/Tube:** Preferred: Lavender top (EDTA) or yellow top (ACD)
- **Acceptable:** Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

- **Specimen Type:** Cultured fibroblasts
- **Container/Tube:** T-75 or T-25 flask
- **Specimen Volume:** 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours

- **Specimen Type:** Skin biopsy
- **Supplies:** Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch
- **Collection Instructions:** 1. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 2. Do not expose specimen to heat or direct sunlight. 3. Do not stack wet specimens. 4. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:**
- **Blood:** 1 mL
- **Blood Spots:** 3

**Transport Temperature:**

Varies

**CPT Code Information:**
- 83864

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**Mucopolysaccharidosis IIIA, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred:

- **Specimen Type:** Whole blood
- **Container/Tube:** Preferred: Lavender top (EDTA) or yellow top (ACD)
- **Acceptable:** Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

- **Specimen Type:** Cultured fibroblasts
- **Container/Tube:** T-75 or T-25 flask
- **Specimen Volume:** 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours

- **Specimen Type:** Skin biopsy
- **Supplies:** Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch
- **Collection Instructions:** 1. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 2. Do not expose specimen to heat or direct sunlight. 3. Do not stack wet specimens. 4. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:**
- **Blood:** 1 mL
- **Blood Spots:** 3

**Transport Temperature:**

Varies

**CPT Code Information:**
- 81479-Unlisted molecular pathology procedure; Fibroblast Culture for Genetic Testing; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate);
- 88240-Cryopreservation (if appropriate);
- 35502-Mucopolysaccharidosis IIIA, Full Gene Analysis
Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection
Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let
blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not
expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry
Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For
collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in
Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese
Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches, 3-mm diameter

**Transport Temperature:**

Varies

**CPT Code Information:** 81479-Unlisted molecular pathology procedure code; ; Additional tests;
Fibroblast Culture for Genetic Testing; 88233-Tissue culture, skin, or solid tissue biopsy (if appropriate);
88240-Cryopreservation (if appropriate);

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**MP3BZ**

**Mucopolysaccharidosis IIIB, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an
allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who
have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen
Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable:
Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood.
2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated
Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75
or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours
Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg,
minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and
streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin
and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated
(preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection
(Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper)
Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5
blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a
patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a
horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet
specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated
Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish
Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot
Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood spots: 5 punches, 3-mm diameter

**Transport Temperature:**

Varies

**CPT Code Information:** 81479-Unlisted molecular pathology procedure code; ; Additional tests;
Fibroblast Culture for Genetic Testing; 88233-Tissue culture, skin, or solid tissue biopsy (if appropriate);
88240-Cryopreservation (if appropriate);

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**MP3CZ**

**Mucopolysaccharidosis IIIC, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an
allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated ≤24 hours Supplies: Fibroblast Biopsy Transport Media (T115) Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 3

**Transport Temperature:**
Varies Varies

**CPT Code Information:** 81479-Unlisted molecular pathology procedure code; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

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**MP3DZ 35728**

**Mucopolysaccharidosis IIID, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated ≤24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.
Specimen Minimum Volume: Blood: 1 mL  Blood Spots: 3  
Transport Temperature:  
Varies  Varies  

CPT Code Information: 81479-Unlisted molecular pathology procedure code; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);  

Mucopolysaccharidosis VI, Full Gene Analysis  
Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated  
Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.  
Specimen Minimum Volume: Blood: 1 mL  Blood Spots: 5 punches, 3-mm diameter  
Transport Temperature:  
Varies  Varies  

CPT Code Information: 81479-Unlisted molecular pathology procedure code; ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);  

Mucopolysaccharidosis, Blood  
Specimen Requirements: Patient Preparation: Do not administer low-molecular weight heparin prior to collection Collection Container: Preferred: Lavender top (EDTA) Acceptable: Yellow top (ACD) Specimen Volume: 2 mL  
Specimen Minimum Volume: 0.5 mL  
Transport Temperature:  
Whole blood  Ambient (preferred)  7 days
**MPSBS**  
*65095*  
**Mucopolysaccharidosis, Blood Spot**


Specimen Volume: 2 dried blood spots. Collection Instructions: 1. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle). 2. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry.

**Specimen Minimum Volume:** See Specimen Required.

**Transport Temperature:**
- Whole blood: Ambient (preferred) 100 days
- Frozen: 100 days
- Refrigerated: 100 days

**CPT Code Information:** 82542

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**MUC**  
*82675*  
**Mucor, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel. Specimen Volume: 0.5 mL for each 5 allergens requested. Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum: Refrigerated (preferred) 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

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**MUG**  
*82683*  
**Mugwort, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel. Specimen Volume: 0.5 mL for each 5 allergens requested. Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Mulberry, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Multiple Myeloma Minimal Residual Disease by Flow, Bone Marrow

Specimen Requirements: Specimen Type: Redirected bone marrow Container/Tube: Preferred: Yellow top (ACD) Acceptable: EDTA Specimen Volume: 4 mL

Specimen Minimum Volume: 2 mL

Transport Temperature:
Bone Marrow Ambient (preferred) 72 hours
Refrigerated 72 hours

CPT Code Information: 88184-Flow Cytometry; first cell surface, cytoplasmic or nuclear marker; 88185 x 9-Flow Cytometry; additional cell surface, cytoplasmic or nuclear marker; 88188-Flow Cytometry Interpretation, 9 to 15 Markers;

Multiple Sclerosis (MS) Profile

Specimen Requirements: Both serum and spinal fluid are required. Spinal fluid must be obtained within 1 week of serum draw. Specimen Type: Serum Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: Label specimen as serum. Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 1 mL Collection Instructions: Label specimen as spinal fluid.

Specimen Minimum Volume: Serum: 0.5 mL Spinal Fluid: 0.5 mL

Transport Temperature:
CSF Refrigerated (preferred) 14 days
Ambient 14 days
SUMFZ 35559  

Multiple Sulfatase Deficiency, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches, 3-mm diameter

**Transport Temperature:** Varies

**CPT Code Information:** 81479-Unlisted molecular pathology procedure code; ; Additional tests; Fibroblast Culture for Genetic Testing; 88233-Tissue culture, skin, or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);
Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**MUM1** 70514  
**MUM-1/IRF4 Immunostain, Technical Component Only**  
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**CMUMP** 81435  
**Mumps Virus Antibodies, IgG and IgM (Separate Determinations), Spinal Fluid**  
**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.2 mL

Transport Temperature:
CSF Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 86735 x 2

**MPPG** 34947  
**Mumps Virus Antibody, IgG, Serum**  
**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 86735

**MMPGM** 61854  
**Mumps Virus Antibody, IgM and IgG (Separate Determinations),**
Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.9 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86735-Mumps, IgG; 86735-Mumps, IgM;

Mumps Virus Antibody, IgM, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86735

Murine Typhus Antibodies, IgG

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL serum in a screw-capped vial, shipped frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 5 days

**CPT Code Information:** 86757

Muscle Pathology Consultation

**Specimen Requirements:** Biopsies from different sites require separate orders and separate specimen vials. Preferred: Frozen muscle biopsy tissue Supplies: Muscle Biopsy Kit (T541) Specimen Type: Muscle biopsy tissue (frozen) and/or slides Collection Instructions: 1. Prepare and transport specimen per instructions in Muscle Biopsy Specimen Preparation Sheet in Special Instructions. 2. Patient history and requests should be clearly labeled with correct patient identifiers and pathology accession/case number. 3. All specimens must be labeled with specimen type. Additional Information: Contact Dr. Andrew Engel (Director of the Muscle Laboratory) or Dr. Duygu Selcen (Associate Director of the Muscle Laboratory) for special problems to maximize benefit of the muscle biopsy. Acceptable: Stained muscle biopsy slides 1. Submit all stains performed on the case. If electron microscopy (EM) has been performed, include EM images (either on a CD or as prints). 2. All
specimens must be labeled with specimen type.

**Specimen Minimum Volume:** 1.5 cm biopsy

**Transport Temperature:**
- Varies Frozen (preferred)
- Ambient

**CPT Code Information:** 88342-(if appropriate); 88341-(if appropriate); 88346-(if appropriate); 88350-(if appropriate); 88305-(if appropriate); 88313-(if appropriate); 88319-(if appropriate); 88314-(if appropriate); 88321-(if appropriate); 88323-(if appropriate); 88323-26-(if appropriate); 88325-(if appropriate);

**MUSK**

Muscle-Specific Kinase (MuSK) Autoantibody, Serum

**Specimen Requirements:**
- Container/Tube: Preferred: Red top Acceptable: Serum gel
- Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 72 hours

**CPT Code Information:** 83519

**G091**

Muscular Dystrophy Panel (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81404 x 3; 81405 x 9; 81406 x 9; 81407 x 4; 81408 x 4; 81479;

**FMUSG**

Mushroom IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

**MUSH**

Mushroom, IgE

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 788
Specimen Requirements:  Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume:  For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:  
Serum Refrigerated (preferred)  14 days  
Frozen  90 days

CPT Code Information:  86003

Mustard Food IgG

Specimen Requirements:  Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume:  0.5 mL

Transport Temperature:  
Serum Refrigerated (preferred)  28 days  
Frozen  365 days  
Ambient  7 days

CPT Code Information:  86001

Mustard, IgE

Specimen Requirements:  Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume:  For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:  
Serum Refrigerated (preferred)  14 days  
Frozen  90 days

CPT Code Information:  86003

Mutation- Specific testing- One known familial mutation

Specimen Requirements:  Note: Complete and submit with specimen 1. GeneDx "Rare Mendelian Disorders Test Requisition Form" 2. In "Special service section" provide Gene Name, Mutation, Relatives name or GeneDx accession number, relationship to patient. Specimen Type: Whole Blood Container/Tube: Lavender top (EDTA) Specimen volume: 5 mL Collection instructions: Send 5 mL of whole blood in original tube refrigerated.

Specimen Minimum Volume:  2 mL
**MYHZ 65603**

**MUTYH Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81479

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**FBLAS 91407**

**MVista Blastomyces Quantitative Antigen**

**Specimen Requirements:** Submit only one of the following: Serum: Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 2 mL serum refrigerate in a plastic vial. Plasma: Draw blood in EDTA, heparin or sodium citrate tube(s). Spin down and send 2 mL plasma refrigerate in a plastic vial. Urine: Send 2 mL from a random urine collection in sterile screw cap container, shipped refrigerate. CSF: Collect 2 mL of spinal fluid (CSF) in sterile leak proof container. Send refrigerate in a plastic vial. Bronchoalveolar Lavage: Collect 2 mL in sterile leak proof container. Send refrigerate in a plastic vial. Note: 1. Source is required. 2. Separate order required for each specimen.

**Specimen Minimum Volume:**

- Blood: 1.8 mL
- Serum/Plasma: 1.2 mL
- CSF: 0.8 mL
- Urine: 0.5 mL
- BAL: 0.5 mL

**Transport Temperature:**

- Varies Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen

**CPT Code Information:** 81406

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**FMVCO 57122**

**MVista Coccidioides Antigen EIA**

**Specimen Requirements:** 2 mL urine shipped refrigerate Note: Sputolysin and Sodium Hydroxide are interfering substances.
**MVista Histoplasma Ag Quantitative EIA**

**Specimen Requirements:** Submit only 1 of the following specimens: Bronchial Washing Collect 2 mL of Bronchial Washing in leak proofed container. Ship refrigerator. Required: 1. Label specimen appropriately (Bronchial Washing) Pericardial Fluid Collect 2 mL of Pericardial Fluid in leak proofed container. Ship refrigerator. Required: 1. Label specimen appropriately (Pericardial Fluid) Note: Minimum volume does not allow for repeats.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Refrigerated (preferred) 14 days
- Ambient 48 hours
- Frozen

**CPT Code Information:** 87449

**MVista Histoplasma Ag Quantitative, Serum**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 2 mL serum refrigerate in a plastic vial

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen

**CPT Code Information:** 87385

**MVista Histoplasma Ag Quantitative, Spinal Fluid**

**Specimen Requirements:** Specimen Type: Spinal Fluid Sources: CSF Container/Tube: Sterile container Specimen Volume: 2 mL Collection Instructions: Collect 2 mL of spinal fluid (CSF). Ship refrigerated. 2 mL of spinal fluid. Send specimen in a plastic, screw-capped vial refrigerated.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen

**CPT Code Information:** 87385
CSF Refrigerated (preferred) 14 days
Ambient 14 days
Frozen

CPT Code Information: 87385

**MGRM**
64289

**Myasthenia Gravis (MG) Evaluation with MuSK Reflex, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL Additional Information: Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

CPT Code Information: 83519 x 2; 83520; 83519 x 3 (if appropriate); 84182 (if appropriate); 86341 (if appropriate);

**MGA1**
37425

**Myasthenia Gravis (MG) Evaluation, Adult**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL Additional Information: Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

CPT Code Information: 83519 x 2; 83520; 83519 x 2 (if appropriate); 84182 (if appropriate); 86341 (if appropriate);

**MGP1**
37424

**Myasthenia Gravis (MG) Evaluation, Pediatric**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2 mL Additional Information: Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
**MGT1 37426**

**Myasthenia Gravis (MG) Evaluation, Thymoma**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL Additional Information: Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 72 hours

**CPT Code Information:** 83519 x 2

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**MGL1 37427**

**Myasthenia Gravis (MG)/Lambert-Eaton Syndrome (LES) Evaluation**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL Additional Information: Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 72 hours

**CPT Code Information:** 83519 x 4-ACh receptor (muscle) binding antibody; 83520; 84182; 86341;

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**SGTF 35860**

**MYB (6q23) Rearrangement FISH, Tissue**

**Specimen Requirements:** Provide a reason for referral and pathology report with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive unstained 5 micron-thick sections placed on positive-charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
CPT Code Information: 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

MYC Immunostain, Technical Component Only
Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Mycobacteria and Nocardia Culture
Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Body fluid Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Bone marrow Container/Tube: SPS/Isolator System or green top (lithium heparin) Specimen Volume: Entire collection Specimen Type: Gastric washing Container/Tube: Sterile container Specimen Volume: 10 mL Collection Instructions: Neutralize specimen within 4 hours of collection with 100 mg of sodium carbonate per 5 to 10 mL of gastric wash. Specimen Type: Respiratory Sources: Bronchoalveolar lavage fluid, bronchial washing, sputum Container/Tube: Sterile container Specimen Volume: 3 mL Collection Instructions: 1. Collect 3 respiratory specimens for acid-fast smears and culture in patients with clinical and chest X-ray findings compatible with tuberculosis. 2. These 3 specimens should be collected at 8- to 24-hour intervals (24 hours when possible) and should include at least 1 first-morning specimen. Specimen Type: Stool Suppies: Stool Collection Kit, Random (T635) Container/Tube: Sterile container Specimen Volume: 5-10 g Collection Instructions: Collect a fresh tissue specimen. Specimen Type: Urine Container/Tube: Sterile container Specimen Volume: 20-50 mL Collection Instructions: Collect a random urine specimen. Fresh tissue or body fluid is the preferred specimen type instead of a swab specimen. Specimen Type: Swab Sources: Wound, tissue, or body fluid Container/Tube: Culture transport swab (noncharcoal) culturette Specimen Volume: Adequate specimen Collection Instructions: 1. Before collecting specimen, wipe away any excessive amount of secretion and discharge, if appropriate. 2. Obtain secretions or fluid from source with sterile swab. 3. If smear and culture are requested or both a bacterial culture and mycobacterial culture are requested, collect a second swab to maximize test sensitivity.

Specimen Minimum Volume: Body Fluid: 1.5 mL Respiratory Specimen: 3 mL Fresh Tissue: pea-sized piece
Transport Temperature:
Varies Refrigerated (preferred) 7 days
Ambient 7 days

CPT Code Information: 87116-Mycobacterial Culture; 87015-Mycobacteria Culture, Concentration (if appropriate); 87118-Id MALDI-TOF Mass Spec AFB (if appropriate); 87150-Mycobacteria Probe Ident, Solid (if appropriate); 87150-Mycobacteria Probe Ident, Broth (if appropriate); 87150-Id, Mtb Speciation, PCR (if appropriate); 87153-Mycobacteria Identification by Sequencing (if appropriate); 87176-Tissue Processing (if appropriate); 87015-Mycobacteria Culture, Concentration (Bill Only)

TBT 80667

Mycobacteria Culture, Concentration (Bill Only)
Transport Temperature: Varies Varies

CPT Code Information: 87015

ISMY 45265

Mycobacteria Ident by Sequencing (Bill Only)
Specimen Requirements: This test is for billing purposes only. This is not an orderable test.
Transport Temperature: Varies Varies

CPT Code Information: 87153

TBPB 45433

Mycobacteria Probe Ident Broth (Bill Only)
Specimen Requirements: This test is for Billing Purposes Only. This is not an orderable test.
Transport Temperature: Varies Varies

CPT Code Information: 87150

TBMP 45424

Mycobacteria Probe Ident Solid (Bill Only)
Specimen Requirements: This test is for Billing Purposes Only. This is not an orderable test.
Transport Temperature: Varies Varies

CPT Code Information: 87150

CTBBL 82443

Mycobacterial Culture, Blood
Specimen Requirements: Container/Tube: Preferred: Green top (sodium or lithium heparin) Acceptable: SPS/Isolator System Specimen Volume: 10 mL per culture Collection Instructions: 1. Send
specimen in original tube. 2. Please note when sending SPS tube, it must be clearly labeled SPS. If label
is obscured, sample may be cancelled as ACD (yellow top) is not an acceptable tube type.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
Whole blood Ambient (preferred) 72 hours
Refrigerated 72 hours

**CPT Code Information:** 87116-Mycobacterial Culture; 87118-Id MALDI-TOF Mass Spec AFB (if appropriate); 87150-Id, M tuberculosis Speciation, PCR (if appropriate); 87150-Mycobacteria Probe Ident, Broth(if appropriate); 87150-Mycobacteria Probe Ident, Solid(if appropriate); 87153-Mtb PZA Confirmation, pcnA sequence (if appropriate); 87153-Mycobacteria Identification by Sequencing (if appropriate);

**MTBRP 88807**

**Mycobacterium tuberculosis Complex, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycobacterium tuberculosis DNA is unlikely. If a single specimen is being shared between mycobacteria culture, acid-fast smear, and/or M tuberculosis PCR, a minimum volume of 2 mL for body fluid, 3 mL for respiratory specimen, or a pea-sized piece of tissue should be obtained. Specimen volumes less than indicated may decrease sensitivity of testing. If insufficient volume is submitted, test or tests will be canceled. Preferred Specimens: Body fluid, cerebrospinal fluid (CSF), ocular fluid, respiratory (eg, bronchoalveolar lavage [BAL], bronchial washing, sputum), stool, fresh tissue, bone, bone marrow, or urine Acceptable Specimens: If no fresh specimen is available, digested respiratory specimens treated with N-acetyl-L-cysteine (NALC)/NaOH are acceptable (eg, BAL, bronchial washing, respiratory fluid, sputum, or tracheal secretion), as are NALC/NaOH-treated gastric washings. Submit only 1 of the following specimens: Specimen Type: Body fluid Sources: Body, bone marrow aspirate, ocular, or CSF Container/Tube: Sterile container Specimen Volume: 1 mL Additional Information: Only fresh, non-NALC/NaOH-digested body fluid is acceptable. Specimen Type: Gastric washing Container/Tube: Sterile container Specimen Volume: 2 mL Collection Instructions: Neutralize specimen within 4 hours of collection with 20 mg of sodium carbonate per 2 mL of gastric washing. Specimen Type: Respiratory Sources: BAL, bronchial washing, or sputum Container/Tube: Sterile container Specimen Volume: 1 mL if only PCR ordered or 3 mL if PCR ordered with smear and culture Specimen Type: Stool Container/Tube: Sterile container Specimen Volume: 5-10 g Additional Information: Only fresh, non-NALC/NaOH-digested stool is acceptable. Specimen Type: Tissue Sources: Fresh tissue, bone, or bone marrow biopsy Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: Keep moist with sterile water or sterile saline Additional Information: Only fresh, non-NALC/NaOH-digested tissue is acceptable. Specimen Type: Urine Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Collect a random urine specimen. Acceptable Specimen Type: NALC/NaOH-digested respiratory specimens Sources: Lavage fluid, bronchial washing, gastric washing, respiratory fluid, sputum, or tracheal secretion Container/Tube: Sterile container Specimen Volume: 2 mL Collection Instructions: 1. Submit digested specimen treated with NALC/NaOH. 2. Clearly indicate on container and order form that specimen is a digested specimen.

**Specimen Minimum Volume:** Body fluid: 0.5 mL Respiratory specimen-nondigested: 0.5 mL Fresh tissue or bone: 5 mm NALC-NaOH-digested specimen: 1 mL Gastric washing: 1 mL Stool: 5 g Urine: 0.5 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days
Frozen 7 days
**Mycobacterium tuberculosis Complex, Molecular Detection, PCR, Paraffin**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycobacterium tuberculosis DNA is unlikely. Specimen Type: Formalin-fixed, paraffin-embedded tissue Sources: Body tissue Container/Tube: Sterile container Preferred: Formalin-fixed, paraffin-embedded tissue (FFPE) Acceptable: Biopsy specimen of tissue fixed with formalin and embedded in a paraffin block Specimen Volume: 5 x 10 mcm sections or 1 paraffin-embedded tissue block Collection Instructions: Block must be sent for sectioning.

**Specimen Minimum Volume:** See Specimen Required.

**Transport Temperature:**
- Tissue, Paraffin
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 87556-Mycobacterium tuberculosis, complex, molecular detection, PCR, Paraffin

**Mycobacterium tuberculosis Complex, Pyrazinamide Resistance by pncA DNA Sequencing**

**Specimen Requirements:** Specimen Type: Organism Supplies: Infectious Container, Large (T146) Container/Tube: Middlebrook 7H10 agar slant Specimen Volume: Isolate Collection Instructions: Organism must be in pure culture, actively growing.

**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 87153-Mtb PZA Confirmation, pncA Sequence

**Mycophenolic Acid, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red
  - Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 21 days

**CPT Code Information:** 80180
Mycoplasma genitalium, Molecular Detection, PCR

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycoplasma genitalium DNA is not likely. Submit only 1 of the following specimens: Supplies: M4-RT (T605) Culturette (BBL Culture Swab) (T092) Specimen Type: Swab Sources: Cervix, urethra, urogenital, vaginal Container/Tube: Preferred: Culture swab transport system (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Acceptable: Swab in transport media: M4, M4-RT (T605), M5, M6, universal transport medium, or ESwar Specimen Volume: One swab Collection Instructions: 1. Vaginal: Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells. 2. Urethra or Cervical: Collect specimen by inserting swab 1 to 3 cm and rotating 360 degrees. 3. Place swab back into swab cylinder. Supplies: M4-RT (T605) Specimen Type: Fluid Sources: Amniotic, pelvic, prostatic secretion, reproductive drainage, semen Container/Tube: Preferred: Sterile container Acceptable: Container with 3 mL of transport media: M4, M4-RT (T605), M5, M6 or universal transport media Specimen Volume: 1-2 mL Specimen Type: Urine, kidney/bladder stone, ureter Container/Tube: Sterile container Specimen Volume: 10 mL or entire specimen Specimen Type: Tissue Sources: Placenta, products of conception, genitourinary Container/Tube: Sterile container Specimen Volume: 5 mm Collection Instructions: Submit only fresh tissue.

**Specimen Minimum Volume:** Pelvic Fluid, Amniotic Fluid, Prostatic Secretions, Semen, Reproductive Drainage or Fluid: 1 mL Urine: 2 mL Swab: 1 swab

**Transport Temperature:**

- Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

Mycoplasma hominis, Molecular Detection, PCR

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycoplasma hominis DNA is not likely. Submit only 1 of the following specimens: Supplies: M4-RT (T605) Culturette (BBL Culture Swab) (T092) Specimen Type: Swab Sources: Cervix, urethra, urogenital, vaginal, chest/mediastinal; bronchus (donor swab); or upper respiratory sources (only infants <3 months: nasopharynx, nose, throat) Container/Tube: Preferred: Culture swab transport system (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium: T092) Acceptable: Swab in transport media: M4, M4-RT (T605), M5, M6, universal transport media, or ESwar Specimen Volume: 1 swab Collection Instructions: Vaginal: 1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells. 2. Place swab back into swab cylinder. Urethra or Cervical: 1. Collect specimen by inserting swab 1 to 3 cm and rotating 360 degrees. 2. Place swab back into swab cylinder. Wound: 1. Collect specimen by swabbing back and forth over wound surface to maximize recovery of cells. 2. Place swab back into swab cylinder. Supplies: M4-RT (T605) Specimen Type: Fluid Sources: Pelvic fluid, amniotic fluid, prostatic secretion, semen, reproductive drainage or fluid, pleural/chest fluid, chest tube fluid, pericardial fluid, sputum, tracheal secretion, bronchial washings, bronchoalveolar lavage, lung; or nasal washings (only infants <3 months) Container/Tube: Preferred: Sterile container Acceptable: Container with 3 mL of transport media: M4, M4-RT (T605), M5, M6, or universal transport media Specimen Volume: 1-2 mL Specimen Type: Synovial Fluid Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container Specimen Volume: 0.5 mL Collection Instructions: Send specimen in original tube (preferred). Specimen Type: Urine, kidney/bladder stone, or ureter Container/Tube: Sterile container Specimen Volume: 10 mL or entire specimen Specimen Type: Tissue Sources: Placenta, products of conception, respiratory, bronchus, chest/mediastinal, bone, or joint Container/Tube: Sterile container Specimen Volume: 5 mm Collection Instructions: Submit only fresh
tissue.

**Specimen Minimum Volume:** Fluid: 1 mL Urine: 2 mL Swab: 1 swab Tissue: 5 mm(3)

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days
Frozen 7 days

**CPT Code Information:** 87798

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**MHBRP**

**Specimen Requirements:** Mycoplasma hominis, Molecular Detection, PCR, Blood

- The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycoplasma hominis DNA is unlikely. Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot Specimen Volume: 1 mL Collection Instructions: Send specimen in original tube (preferred).

- **Specimen Minimum Volume:** 0.5 mL

- **Transport Temperature:** Whole Blood EDTA Refrigerated (preferred) 7 days
Frozen 7 days

- **CPT Code Information:** 87798

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**MHPRP**

**Specimen Requirements:** Mycoplasma hominis, Molecular Detection, PCR, Plasma

- The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycoplasma hominis DNA is unlikely. Collection Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot Submission Container/Tube: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge and separate plasma within 24 hours of collection.

- **Specimen Minimum Volume:** 0.5 mL

- **Transport Temperature:** Plasma EDTA Refrigerated (preferred) 7 days
Frozen 7 days

- **CPT Code Information:** 87798

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**MYCO**

**Specimen Requirements:** Mycoplasma pneumoniae Antibodies, IgG and IgM, Serum

- Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

- **Specimen Minimum Volume:** 0.5 mL

- **Transport Temperature:** Serum Refrigerated (preferred) 14 days
CPT Code Information: 86738 x 2-Mycoplasma pneumoniae by EIA; 86738-Mycoplasma pneumoniae by indirect IFA (if appropriate);

**MYCOG 48317** Mycoplasma pneumoniae Antibodies, IgG, Serum

**Specimen Requirements:** Only orderable as part of a profile. For more information see MYCO / Mycoplasma pneumoniae Antibodies, IgG and IgM, Serum. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 86738

**MYCOM 48318** Mycoplasma pneumoniae Antibodies, IgM, Serum

**Specimen Requirements:** Only orderable as part of a profile. For more information see MYCO / Mycoplasma pneumoniae Antibodies, IgG and IgM, Serum. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 86738

**MYCON 48319** Mycoplasma pneumoniae Antibody Interpretation

**Specimen Requirements:** Only orderable as part of a profile. For more information see MYCO / Mycoplasma pneumoniae Antibodies, IgG and IgM, Serum.

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**FMPAB 90055** Mycoplasma pneumoniae Antibody, CF (CSF)

**Specimen Requirements:** Specimen Type: Spinal Fluid Sources: CSF Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Collect 1 mL of spinal fluid (CSF). Ship refrigerate.

**Specimen Minimum Volume:** 0.5 mL

Current as of October 16, 2018 7:53 pm CDT   800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Transport Temperature:
- CSF Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 7 days

CPT Code Information: 86738

FMYPN 91179
**Mycoplasma pneumoniae IgA**

**Specimen Requirements:** Draw blood in a red-top tube. Separate serum from cells immediately and send 1 mL of serum frozen in plastic vial. Required: Collection date

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Red Frozen 120 days

CPT Code Information: 86738

MPRP 62394
**Mycoplasma pneumoniae, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycoplasma pneumoniae DNA is unlikely. Specimen source is required. Submit only 1 of the following specimens: Supplies: M4-RT (T605) Specimen Type: Respiratory Sources: Bronchial washing, bronchoalveolar lavage, tracheal secretions, sputum Container/Tube: Preferred: Sterile container Acceptable: Specimen in M4, M4-RT (T605), M5, M6, or UTM Specimen Volume: 1 mL Supplies: M4-RT (T605), Culturette (BBL Culture Swab) (T092) Specimen Type: Swab Sources: Throat, nasal, or nasopharyngeal Container/Tube: Preferred: Culture swab transport system (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium: T092) Acceptable: Culture transport swab (Stuart's media) or place swab in M4, M4-RT (T605), M5, M6, UTM, or ESwa Specimen Volume: Swab Collection Instructions: 1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells. 2. Place swab back into swab cylinder. Specimen Type: Fluid Sources: Pleural, pericardial, cerebrospinal Container/Tube: Sterile vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** Respiratory: 0.5 mL; Fluid: 0.5 mL; Swab: 1 swab

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 87581

CXCFX 601509
**MYD88 Reflex to CXCR4 Mutation Detection**

**Specimen Requirements:** Only orderable as a reflex. For more information, see LPLFX / Reflexive Testing of MYD88 and CXCR4 Submit only 1 of the following specimens: Specimen Type: Peripheral blood Container/Tube: EDTA (lavender top) or ACD solution B (yellow top) Specimen Volume: 3 mL Specimen Stability: Ambient (preferred)/Refrigerated Collection Instructions: 1. Invert several times to mix blood 2. Send specimen in original tube 3. Label specimen as blood Specimen Type: Bone marrow Container/Tube: EDTA (lavender top) or ACD solution B (yellow top) Specimen Volume: 2 mL Specimen Stability: Ambient (preferred)
Volume: 2 mL Specimen Stability: Ambient (preferred)/Refrigerated Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

Specimen Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube with indication of volume and concentration of the DNA.

Specimen Volume: Entire specimen Specimen Stability: Frozen (preferred)/Refrigerated/Ambient Collection Instructions: Label specimen as extracted DNA and list specimen source. Include indication of volume and concentration of the DNA.

Specimen Type: Paraffin-embedded tissue Container/Tube: Paraffin block Specimen Stability: Ambient Specimen Type: Paraffin-embedded bone marrow aspirate clot Container/Tube: Paraffin block Specimen Stability: Ambient

Specimen Minimum Volume: Blood, Bone Marrow: 1 mL Extracted DNA: 20 mcL with a concentration of at least 10 nanograms per mcL

Transport Temperature: Varies Varies 10 days

CPT Code Information: 81479-Unlisted molecular pathology procedure

**MYD88, L265P, Somatic Gene Mutation, DNA Allele-Specific PCR**

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Paraffin-embedded tissue Container/Tube: Paraffin block Specimen Stability: Ambient/Refrigerated Specimen Type: Frozen tissue Container/Tube: Plastic container Specimen Volume: 100 mg Specimen Stability: Frozen Collection Instructions: Freeze tissue within 1 hour of collection. Specimen Type: Paraffin-embedded bone marrow aspirate clot Container/Tube: Paraffin block Specimen Stability: Ambient/Refrigerated Specimen Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube with indication of volume and concentration of the DNA.

Specimen Volume: Entire specimen Specimen Stability: Frozen/Refrigerated Collection Instructions: Label specimen as extracted DNA and include indication of volume and concentration of the DNA.

Specimen Type: Methanol-acetic acid (MAA) fixed pellets Container/Tube: Plastic container Specimen Stability: Ambient/Refrigerated

Specimen Minimum Volume: 1 mL

Transport Temperature:

Varies Ambient (preferred) 10 days

Refrigerated 10 days

CPT Code Information: 81479-Unlisted molecular pathology procedure

**FMGA, Myelin Assoc. Glycoprotein (MAG) Antibody w/Reflex to MAG-SGPG & MAG, EIA**

Specimen Requirements: Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.
**MOGFS 65563**

**Myelin Oligodendrocyte Glycoprotein (MOG-IgG1) Fluorescence-Activated Cell Sorting (FACS) Assay, Serum**

**Specimen Requirements:** Patient Preparation: For optimal antibody detection, we recommend drawing the specimen before initiation of immunosuppressant medication. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen  28 days
- Ambient  72 hours

**CPT Code Information:** 86255; 86256 (if appropriate);

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**MDSF 35285**

**Myelodysplastic Syndrome (MDS), FISH**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL Bone Marrow: 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);
Myelodysplastic Syndrome by Flow Cytometry, Bone Marrow

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD) Acceptable: Heparin, EDTA Specimen Volume: 2-5 mL Slides: Include 5 to 10 unstained bone marrow aspirate smears, if possible. Collection Instructions: 1. Submission of bilateral specimens is not required. 2. Label specimen as bone marrow.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** Bone Marrow Ambient

**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker x 1; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each) x18; 88189-Flow Cytometry Interpretation, 16 or More Markers (if appropriate);

Myeloid Sarcoma, FISH, Tissue

**Specimen Requirements:** Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides. Include 1 hematoxylin and eosin (H and E)-stained slide.

**Transport Temperature:** Tissue Ambient (preferred)

**Refrigerated

**CPT Code Information:** 88291; 88271 x 2 (if appropriate); 88271 x 2 (if appropriate); 88271 (if appropriate); 88271 x 2 (if appropriate); 88271 x 3 (if appropriate); 88274 w/modifier 52 (if appropriate); 88274 (if appropriate); 88275 (if appropriate);

Myeloma, FISH, Fixed Cells

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 fixed cell pellet Collection Instructions: Place specimen in a sterile container with a 3:1 (or similar) fixative (methanol:glacial acetic acid).

**Transport Temperature:** Fixed Cell Pellet Bone Marrow Ambient (preferred)

**Refrigerated

**CPT Code Information:** 88271x2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271x2-DNA probe, each; each additional probe set (if appropriate); 88271x1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate);
88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**Myeloperoxidase (MPO) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**Myeloperoxidase Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 83516

**Myeloproliferative Neoplasm (MPN), CALR with Reflex to MPL**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: EDTA (Lavender) or ACD-B (yellow top) Specimen Volume: 3 mL Specimen Stability: Ambient (preferred)/Refrigerate Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow aspirate Container/Tube: EDTA (Lavender) or ACD-B (yellow top) Specimen Volume: 2 mL Specimen Stability: Ambient (preferred)/Refrigerate Collection Instructions: 1. Invert several times to mix specimen. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5 to 2 mL tube Specimen Volume: Entire specimen Specimen Stability: Frozen (preferred)/Refrigerate/Ambient Collection Instructions: 1. Indicate volume and concentration of DNA 2. Label specimen as extracted DNA from blood or bone marrow.

**Specimen Minimum Volume:** Blood/Bone marrow: 0.5 mL

**Transport Temperature:**

- Varies

**CPT Code Information:** 81219-CALR (calreticulin) (eg, myeloproliferative disorders), gene analysis, common variants in exon 9; 81403-MPL (myeloproliferative leukemia virus oncogene, thrombopoietin receptor, TPOR) (eg, myeloproliferative disorder), exon 10 sequence (if appropriate);
**MPNR 63031**

**Myeloproliferative Neoplasm (MPN), JAK2 V617F with Reflex to CALR and MPL**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Lavender top (EDTA) or yellow top (ACD solution B) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Bone marrow Container/Tube: Lavender top (EDTA) or yellow top (ACD solution B) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow and provide indication of volume and concentration of the DNA. Specimen Stability: Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume:** Blood and Bone marrow: 0.5 mL

**Transport Temperature:**
Varies Varies 7 days

**CPT Code Information:** 81270-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder) gene analysis, p.Val617Phe (V617F) variant; 81219-CALR (calreticulin) (eg, myeloproliferative disorders), gene analysis, common variants in exon 9 (if appropriate); 81403-MPL (myeloproliferative leukemia virus oncogene, thrombopoietin receptor, TPOR) (eg, myeloproliferative disorder), exon 10 sequence (if appropriate);

**MCA 9746**

**Myocardial Antibodies, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86255-Screen; 86256-Titer (if appropriate);

**FMYPP 75371**

**Myocarditis/Pericarditis Panel**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL Collection instructions: Draw blood in a plain red top tube(s), serum gel tube is acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 30 days
Ambient 7 days
Myofibrillar Myopathy Panel (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

CPT Code Information: 86658 x 11; 86710 x 2; 86331 x 2; 86632;

Myogenic Differentiation Antigen 1 (MYOD1) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Myogenin Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Myoglobin Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**MYGLS**  
35110

**Myoglobin, Serum**  
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 83874

**MYGLU**  
35109

**Myoglobin, Urine**  
**Specimen Requirements:** Supplies: Urine Myoglobin Transport Tube (T691) Container/Tube: Plastic, 10-mL urine myoglobin transport tube (T691) Specimen Volume: 5 mL Collection Instructions: 1. Collect a preservative-free, random urine specimen. 2. If specimen is at ambient temperature, aliquot the urine to a urine myoglobin transport tube (T691) within 1 hour of collection. Refrigerate specimen. 3. If specimen is refrigerate, aliquot the urine to a urine myoglobin transport tube (T691) within 2 hours of collection. Additional Information: Urinary myoglobin is highly unstable unless alkalinized with Na2CO3 preservative. Even with alkalinization, myoglobin deterioration is variable and specimen dependent (approximate averages of 10% at 1 day, 20% at 3 days, and 30% at 7 days).

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated 7 days

**CPT Code Information:** 83874

**FMYO**  
91544

**MyoMarker Panel 1**  
**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 3 mL of serum refrigerate in plastic vial. Plasma Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 3 mL of EDTA plasma refrigerate in plastic vial.

**Specimen Minimum Volume:** 0.50 mL Does not allow for repeat testing

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 60 days
  - Ambient 7 days

**CPT Code Information:** 83516 â€“ Mi-2; 83516 â€“ PL-12; 83516 â€“ PL-7; 83516 â€“ EJ; 83516 â€“ OJ; 83516 â€“ SRP; 83516 â€“ Ku; 83516 â€“ U2 snRNP; ; ;
**FMYOP 91545**

**MyoMarker Panel 2**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Collection Container Tube: 10 mL Red Acceptable: 8.5 mL SST Collection Instructions: Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 3 mL of serum refrigerate in plastic vial. Min Vol: 1 mL Plasma Collection Container Tube: 10 mL EDTA Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 3 mL of EDTA plasma refrigerate in plastic vial. Min Vol: 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 60 days
  - Ambient 7 days

**CPT Code Information:** 83516/Mi-2; 83516/PL-12; 83516/PL-7; 83516/EJ; 83516/OJ; 83516/SRP; 83516/Ku; 83516/U2 snRNP; 86235/Anti-PM/Scl-100 Ab; 86235/Anti-Jo 1 Ab;

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**FMP3 58016**

**MyoMarker Panel 3**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Collection Container Tube: 10 mL Red Acceptable: 8.5 mL SST Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial. Min Vol: 1 mL Plasma Collection Container Tube: 10 mL EDTA Collection Instructions: Draw blood in a purple-top (EDTA) tube(s). Spin down and send 3 mL EDTA plasma refrigerated in a plastic vial. Min Vol: 1 mL

**Specimen Minimum Volume:** 1.0 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 60 days
  - Ambient 7 days

**CPT Code Information:** 83516 x 9-Anti-PL-12 Ab, Anti-PL-7 Ab, Anti-EJ Ab, Anti-OJ Ab, Anti-SRP Ab, Anti-Ku Ab, Anti-MDA5 Ab, Anti-NXP2 Ab, Anti-TIF-1? Ab; 86235 x 7-Anti-U2 RNP, Anti-PM/Scl-100 Ab, Anti-SSA 52 kD IgG Ab, Anti-U1 RNP Ab, Anti-Fibrillarin U3 RNP Ab, Anti-Jo-1 Ab, Anti-Mi-2 Ab;

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**G099 65587**

**Myopathy Expanded Panel (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 81401; 81403; 81404 x 5; 81405 x 13; 81406 x 15; 81407 x 5; 81408 x 5; 81479;

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**DDITF 35265**

**Myxoid/Round Cell Liposarcoma, 12q13 (DDIT3 or CHOP) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide
fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
- Tissue Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate) ; 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); ;

**G6SW 62409**

**N-Acetylglactosamine-6-Sulfatase, Leukocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Whole Blood ACD Refrigerated (preferred) 7 days
  - Ambient 7 days

**CPT Code Information:** 82657

**G6ST 80946**

**N-Acetylglactosamine-6-Sulfate Sulfatase, Fibroblasts**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**
- Tissue Varies

**CPT Code Information:** 82657-N-Acetylglactosamine-6-sulfate sulfatase; 88233-Fibroblast culture; 88240-Cryopreservation for biochemical studies;
**NAPRO 37057**

**N-acetylprocainamide, Serum**

**Specimen Requirements:** Only orderable as part of a profile. For more information see PROCG / Procainamide and NAPA, Serum.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 80192

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**NAT2 83389**

**N-Acetyltransferase 2 Gene (NAT2), Full Gene Sequence**

**Specimen Requirements:** Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA)

**Specimen Volume:** 3 mL

**Collection Instructions:** Send specimen in original tube.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole Blood EDTA Ambient (preferred)
- Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

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**NAT2O 60345**

**N-Acetyltransferase 2 Gene (NAT2), Full Gene Sequence, Saliva**

**Specimen Requirements:** Multiple saliva genotype tests can be performed on a single specimen after a single extraction. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Oragene DNA Self-Collection Kit (T651; fees apply)

**Specimen Volume:** Full tube

**Collection Instructions:** 1. Fill tube to line. 2. Send specimen in original container per kit instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Saliva Ambient

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

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**NMHIN 83011**

**N-Methylhistamine, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL

**Collection Instructions:** 1. Collect urine for 24 hours. 2. No preservative. Additional Information: 1. 24-Hour collection is preferred, but a random specimen is also
acceptable. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 8 days
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 82542

**SNTX 65558**

**N-terminal Telopeptide (NTx), Serum**

**Specimen Requirements:** Patient Preparation: A morning collection from fasting patients is preferred due to diurnal variation of markers and food effects. Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic screw-top aliquot tube Specimen Volume: 0.5 mL Collection Instructions: A morning collection from fasting patients is preferred. If not possible, collect the baseline and subsequent specimens under the same circumstances (eg, at same time of day).

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 28 days
- Refrigerated 24 hours

**CPT Code Information:** 82523

**FINA 91447**

**NAbFeron (IFNB-1) Neutralizing Antibody Test**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 2 mL of serum refrigerate in a plastic vial. Note: Sample needs to be collected either before treatment with interferon or more than 24 hours following the most recent dose. Patient should not be on steroid therapy for at least two weeks prior to testing.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 86382

**FNAD 80761**

**Nadolol, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens. Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL of serum refrigerated in a plastic vial. Plasma Draw blood in a lavender-top (EDTA) or Pink top tube(s). (Plasma gel tube is not acceptable.) Spin down and send 1 mL of EDTA plasma refrigerated in a plastic vial.
**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen 30 days

**CPT Code Information:** 80375

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**FNALO 91784**  
**Naloxone - Total (Conjugated/Unconjugated), Screen, Urine**

**Specimen Requirements:** Collect 1 mL random urine. Send specimen refrigerated in a plastic (preservative-free) urine container.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 30 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 80307; 80362 if appropriate;

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**NAPSN 70519**  
**Napsin A Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**NARC 82026**  
**Narcolepsy-Associated Antigen, HLA-DQB1 Typing, Blood**

**Specimen Requirements:** Container/Tube: Yellow top (ACD solution B) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers. Additional Information: Specimen acceptability is based on extracted DNA concentration and not sample age.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Whole Blood ACD-B Refrigerated (preferred)
- Ambient
**CPT Code Information**: 81376-HLA Class II typing, low resolution (eg, antigen equivalents); one locus (eg, HLA-DRB1/3/4/5, -DQB1, -DQA1, -DPB1, or -DPA1), each

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**FNSUR 75141**

**NASH FibroSure**

**Specimen Requirements**: Patient Preparation: Fasting 8 hours Specimen Type: Serum

Container/Tube: Red or SST Specimen Volume: 3.5 mL Collection Instructions: Draw blood in a plain red-top tube(s) or serum gel tube(s). Spin down and send 3.5 mL of serum in a plastic screw-capped vial. Ship frozen. REQUIRED: 1. Patients age 2. Gender 3. Height (in inches) 4. Weight (in pounds)

**Specimen Minimum Volume**: 2 mL

**Transport Temperature**: Serum Frozen (preferred) 7 days

Refrigerated 72 hours

**CPT Code Information**: 0003M; Or; 82172; 82247; 82465; 82947; 82977; 83010; 83883; 84450; 84460; 84478;

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**NKSP 60615**

**Natural Killer (NK)/Natural Killer T (NKT) Cell Subset Panel**

**Specimen Requirements**: For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Sodium heparin Specimen Volume: 5 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume**: 1.1 mL

**Transport Temperature**: WB Sodium Heparin Ambient 30 hours

**CPT Code Information**: 86357; 88184; 88185 x 2;

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**QNKS 60616**

**Natural Killer (NK)/Natural Killer T (NKT) Cell Subsets, Quantitative**

**Specimen Requirements**: For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Sodium heparin Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume**: 0.2 mL

**Transport Temperature**: WB Sodium Heparin Ambient 30 hours

**CPT Code Information**: 86357; 88184; 88185 x 2;

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**NERPC 113316**

**Necropsy, regional (Bill Only)**

**Specimen Requirements**: This test is for billing purposes only. This is not an orderable test.

**Transport Temperature**: Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Necropsy, single organ (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88036

Necrotizing Myopathy Evaluation, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 3 mL Collection Instructions: Centrifuge within 2 hours and aliquot 2 mL.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 86255; 83516; 86256 (if appropriate); 84182 (if appropriate)

Necrotizing Myopathy Interpretation, Serum

**Specimen Requirements:** Only orderable as part of a profile. For more information see NMS1 / Necrotizing Myopathy Evaluation, Serum.

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

FNECT

Nectarine (Prunus spp) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

FNEFA 91135
Nefazodone (Serzone)

Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a
green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium
heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube
is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80338

NEGCT 70410
Negative Control, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained
positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable:
Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

GCRNA 61552
Neisseria gonorrhoeae by Nucleic Acid Amplification
(HOLOGIC)

Specimen Requirements: Submit only 1 of the following specimens: Swab specimen must be
collected using an Aptima Collection Unisex Swab (T583), or Aptima Collection Multitest Swab (T584,
formerly called Aptima Vaginal Swab Specimen Collection Kit). These swabs are contained in the
Aptima Collection Kit. Supplies: Swab, Aptima Male/Female Collection (T583) Specimen Type:
Endocervix Container/Tube: Aptima Collection Unisex Swab (T583) Specimen Volume: Swab Collection
Instructions: 1. Use cleaning swab (white shaft) to remove excess mucus from endocervix and discard. 2.
Insert second swab (blue shaft) 1 to 1.5 cm into endocervical canal, and rotate swab gently for 30 seconds.
Avoid touching vaginal wall when removing swab. 3. Place second swab into transport tube provided in
collection kit. Snap off swab at score line so swab fits into closed tube. 4. Cap tube securely, and label
tube with patient’s entire name, and date and time of collection. 5. Transport and store swab container at 2
to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed,
freeze at -20 to -70°C for 12 months. Supplies: Swab, Aptima Multitest Swab Specimen Collection Kit (T584) Specimen Type: Vaginal Container/Tube: Aptima Collection Multitest Swab (T584) Specimen Volume: Swab Collection Instructions: 1. Insert swab (pink shaft) about 5 cm past introitus and rotate gently for 30 seconds. 2. Place swab into transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 3. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 4. Transport and store swab container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months. Supplies: Swab, Aptima Male/Female Collection (T583) Specimen Type: Urethra (Males Only) Container/Tube: Aptima Collection Unisex Swab (T583) Specimen Volume: Swab Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to collection. 2. With a rotating movement, insert swab (blue shaft) 2 to 4 cm into urethra. 3. Once inserted, rotate swab gently at least 1 full rotation using sufficient pressure to ensure swab comes into contact with all urethral surfaces. Allow swab to remain inserted for 2 to 3 seconds. 4. Place swab in transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 5. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 6. Transport and store swab container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months. Supplies: Aptima Urine Transport Tube (T582) Specimen Type: Urine (Males and Females) Container/Tube: Aptima Urine Specimen Transport Tube (T582) Specimen Volume: 15-20 mL Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to specimen collection. 2. Patient should collect first portion of random voided urine (first part of stream) into a sterile, plastic, preservative-free container. 3. Transfer 2 mL of urine into the urine specimen transport tube using the disposable pipette provided within 24 hours of collection. The correct volume of urine has been added when the fluid level is between the black fill lines on the urine transport tube. Place the labels on the transport tube so the black fill lines are still visible for volume confirmation at Mayo Medical Laboratories. 4. Transport and store urine specimen transport container at 2 to 30°C (refrigerate is preferred temperature) within 30 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months. Supplies: Aptima Thin Prep Transfer Tube (T652) Specimen Type: ThinPrep Specimen (Endocervix) Container/Tube: ThinPrep (also called PreservCyt) Collection Kit (T652) Specimen Volume: 1 mL Collection Instructions: 1. Aliquot ThinPrep specimen for Chlamydia and/or Neisseria testing before processing for Pap smear. For each specimen, use a new pair of clean gloves. 2. Vortex ThinPrep/PreservCyt vial 3 to 10 seconds. Within 1 minute of vortexing: a. Transfer 1 mL of specimen into the Aptima Specimen Transfer Tube (T652) using a disposable transfer pipette or a pipette tip containing a filter (aerosol barrier or hydrophobic plug). b. Process only 1 ThinPrep and transfer tube set at a time. c. Recap Aptima Specimen Transfer Tube tightly and gently invert 3 times to mix. 3. Label Aptima transfer tube with appropriate label. 4. Use remainder of ThinPrep specimen for Pap testing. 5. Transport and store specimen transfer container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for 12 months.

**Specimen Minimum Volume:** Endocervix in PreservCyt: 1mL Urine: 2 mL Swabs (Endocervical, Urethral, Vaginal): Entire collection

**Transport Temperature:**
- Varies Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 87591

**MGRNA 61646**

**Neisseria gonorrhoeae, Miscellaneous Sites, by Nucleic Acid Amplification**

**Specimen Requirements:** Swab specimens must be collected using an Aptima Collection Unisex Swab (T583) or Aptima Collection Multitest Swab (T584). These swabs are contained in the Aptima Collection Kit. Submit only 1 of the following specimens: Supplies: Swab, Aptima Male/Female Collection.
Collection (T583) Swab, Aptima Multitest Swab Specimen Collection Kit (T584, formerly called Aptima Vaginal Swab Specimen Collection Kit) Specimen Type: Oral/throat or ocular (corneal/conjunctiva) or rectal/anal Container/Tube: Aptima Collection Multitest Swab (T584), or Aptima Swab Collection System (T583) Specimen Volume: Swab Collection Instructions: 1. Swab site using Aptima Collection Multitest Swab (T584) or Aptima Collection Unisex Swab (T583). Note: The white swab provided within the collection kit is a cleaning swab and should not be used for collection. Discard the white cleaning swab. 2. Place swab in transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 3. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 4. Transport swab container to laboratory and store (refrigerated is preferred) within 60 days of collection. Supplies: Aptima Thin Prep Transport Tube (T652) Specimen Type: Peritoneal fluid (pelvic wash, cul-de-sac fluid) Container/Tube: Aptima Specimen Transfer Tube (T652) Specimen Volume: 1 mL Collection Instructions: 1. Transfer 1 mL of specimen into the Aptima Specimen Transfer Tube (T652) within 24 hours of collection. 2. Cap tube securely, and label tube with patient's entire name, and date and time of collection. 3. Transport Aptima Specimen Transfer Tube to laboratory (refrigerated is preferred) within 30 days of collection.

**Specimen Minimum Volume:** Oral/Throat, Ocular, Anal/Rectal Swabs: Entire collection Peritoneal Fluid: 1 mL

**Transport Temperature:**
- Varies Refrigerated (preferred)
- Ambient
- Frozen

**CPT Code Information:** 87591

### Neisseria Meningitidis IgG Vaccine Response

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). Spin down and send 0.5 mL serum refrigerated. Note: Serum gel tube is acceptable, but must pour off into a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 5 days

**CPT Code Information:** 86317/x4

### Neonatal Bilirubin, Serum

**Specimen Requirements:** Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: 2 Serum gel Microtainers Acceptable: 2 Red top Microtainers Submission Container/Tube: Amber vial (T192) Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel Microtainers should be centrifuged within 2 hours of collection. 2. Red-top Microtainers should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 24 hours
**CPT Code Information:** 82247-Bilirubin, total; 82248-Bilirubin, direct;

**Nettle, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**Neu-N Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**Neuraminidase, Fibroblasts**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

**Transport Temperature:**
- Tissue Varies

**CPT Code Information:** 82657-Neuraminidase; 88233-Fibroblast culture; 88240-Cryopreservation for biochemical studies;
**Neuro-Oncology Expanded Panel with Rearrangement, Tumor**

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block
Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Slides: 1 Stained and 15 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 15 unstained, nonbaked slides with 5 micron-thick sections of the tumor tissue.

**Specimen Minimum Volume:** Tissue: Entire block. Slides: 1 stained with hematoxylin and eosin and 1 or more unstained nonbaked slides with at least 15,000 total nucleated cells and at least 30% tumor cells

**Transport Temperature:**
Varies Ambient (preferred)
Frozen
Refrigerated

**CPT Code Information:** 81455; 88381;

**Neuroblastoma, 2p24 (MYCN) Amplification, FISH**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
Tissue Ambient (preferred)
Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**Neuroblastoma, 2p24 (MYCN) Amplification, FISH, Blood or Bone Marrow**

**Specimen Requirements:** Provide a reason for referral and a pathology report documenting the presence of the metastatic tumor present in the sample submitted. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or
If FISH analysis was performed on the primary tumor, please provide a copy of the report if available. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Bone Marrow: 1 mL/Blood: 2 mL

**Transport Temperature:**

Varies Ambient (preferred)
Refrigerated

**CPT Code Information:**

Bone marrow FISH analysis:
- 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate) ; 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**NF2F**

**Neurofilament (2F11)(NF 2F11) Immunostain, Technical Component Only**

**Specimen Requirements:**

Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:**

88342-TC, primary; 88341-TC, if additional IHC;

**NFSMI**

**Neurofilament (SMI31) Immunostain, Technical Component Only**

**Specimen Requirements:**

Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)
Refrigerated
**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**Neuroimmunology Antibody Follow-up, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:**
- 83519-59-ACh receptor (muscle) modulating antibodies (if appropriate);
- 83519-59-AChR ganglionic neuronal antibody (if appropriate);
- 83519-59-N-type calcium channel antibody (if appropriate);
- 83519-59-P/Q-type calcium channel antibody (if appropriate);
- 83519-VGKC (if appropriate);
- 84182-CRMP-5-IgG Western blot (if appropriate);
- 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate);
- 86255-Amphiphysin (if appropriate);
- 86255-ANNA-1 (if appropriate);
- 86255-ANNA-2 (if appropriate);
- 86255-ANNA-3 (if appropriate);
- 86255-CRMP-5-IgG (if appropriate);
- 86255-PCA-1 (if appropriate);
- 86255-PCA-2 (if appropriate);
- 86255-PCA-Tr (if appropriate);
- 86255-NMDCS (if appropriate);
- 86255-AMPICS (if appropriate);
- 86255-GABCICS (if appropriate);
- 86255-LG1CC (if appropriate);
- 86255-CS2CC (if appropriate);

**Neuroimmunology Antibody Follow-up, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:**
- 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate);
- 84182-Amphiphysin Western blot confirmation (if appropriate);
- 84182-CRMP-5-IgG Western blot confirmation (if appropriate);
- 86255-Amphiphysin (if appropriate);
- 86255-ANNA-1 (if appropriate);
- 86255-ANNA-2 (if appropriate);
- 86255-ANNA-3 (if appropriate);
- 86255-CRMP-5-IgG (if appropriate);
- 86255-PCA-1 (if appropriate);
- 86255-PCA-2 (if appropriate);
- 86255-PCA-Tr (if appropriate);
- 86255-AGNA-1 (if appropriate);
- 86256-AMPIC (if appropriate);
- 86256-GABC (if appropriate);
- 86256-NMDC (if appropriate);
- 86255-AMPCC (if appropriate);
- 86255-GABC (if appropriate);
- 83519-VGKC (if appropriate);
- 86255-LG1CC (if appropriate);
- 86255-CS2CC (if appropriate);

**Neurologic Enzyme Evaluation**

**Specimen Requirements:** Container/Tube: Yellow top (ACD) Specimen Volume: 10 mL

**Collection Instructions:** Do not transfer blood to other containers.
**Specimen Minimum Volume:** 5 mL  
**Transport Temperature:**  
Whole Blood ACD-B Refrigerated 8 days

**CPT Code Information:** 82657-RBC enzymes; 82978-Glutathione; 83915-Pyrimidine 5’Nucleotidase; 

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**NMPAN**  
65434  
**Neuromuscular Genetic Panels by Next-Generation Sequencing (NGS)**

**Specimen Requirements:**  
Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant.  
Specimen Type: Whole blood  
Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD)  
Acceptable: Any anticoagulant  
Specimen Volume: 3 mL  
Collection Instructions:  
1. Invert several times to mix blood.  
2. Send specimen in original tube.  
Additional Information: To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate.  

**Specimen Minimum Volume:** 3 mL  
**Transport Temperature:**  
Varies Ambient (preferred)  
Frozen  
Refrigerated

**CPT Code Information:** 81243; 81260; 81325; 81401; 81403; 81404; 81405; 81406; 81407; 81408; 81479;

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**NMOFS**  
38324  
**Neuromyelitis Optica (NMO)/Aquaporin-4-IgG Fluorescence-Activated Cell Sorting (FACS) Assay, Serum**

**Specimen Requirements:**  
Container/Tube: Preferred: Red top  
Acceptable: Serum gel  
Specimen Volume: 3 mL

**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 28 days  
Ambient 72 hours

**CPT Code Information:** 86255; 86256-NMO/AQP4-IgG FACS titer (if appropriate);

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**NMOFC**  
38325  
**Neuromyelitis Optica (NMO)/Aquaporin-4-IgG Fluorescence-Activated Cell Sorting (FACS) Assay, Spinal Fluid**

**Specimen Requirements:**  
Collection Container/Tube: Sterile vial  
Specimen Volume: 3 mL

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800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com

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**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 28 days
  - Frozen 28 days
  - Ambient 72 hours

**CPT Code Information:** 86255; 86256-NMO/AQP4-IgG FACS titer (if appropriate);

**NSE** 80913

**Neuron-Specific Enolase (NSE), Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic screw-top aliquot tube Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
  - Ambient 7 days

**CPT Code Information:** 83520

**NSESF** 81796

**Neuron-Specific Enolase (NSE), Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
  - Ambient 72 hours

**CPT Code Information:** 83520

**NSEI** 70630

**Neuron-Specific Enolase Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
Neuronal Ceroid Lipofuscinosis (NCL, Batten Disease) Panel by Next-Generation Sequencing

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours

Prenatal Specimens Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request: Eagle’s minimum essential medium with 1% penicillin and streptomycin (T115). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Card- Blood Spot Collection Filter Paper (T493) Specimen Volume: 3 to 5 Blood Spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 3, 3-mm diameter Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81406; 81479; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); 88235-Tissue culture for amniotic fluid (if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);
Specimen Requirements: Collect 10 mL of blood in special Z-tube (MML supply number T701). Specimen should be separated and 3 mL plasma frozen as soon as possible. Patient preparation: 1) Patient should be fasting 10-12 hours prior to collection. 2) Patient should not be on any antacid medication or medications that affect gastroentero-intestinal function, if possible, for at least 48 hours prior to collection.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Plasma Frozen 30 days

CPT Code Information: 83519

Neurotransmitter Metabolites (5HIAA, HVA, 3OMD) (CSF)

Specimen Requirements: Medical Neurogenetics collection kit (MML Supply T657) required. Each collection kit contains 5 microcentrifuge tubes. COLLECTION PROTOCOL: 1) CSF should be collected from the first drop into the tubes in the numbered order. Fill each tube to the marked line with the required volumes Tube 1: 0.5 mL Tube 2: 1.0 mL Tube 3: 1.0 mL (contains antioxidants necessary to protect the sample integrity) Tube 4: 1.0 mL Tube 5: 1.0 mL - If sample's not blood contaminated, the tubes should be placed on dry ice at bedside. - If sample's are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes, then frozen. - Store samples at -80 until they can be shipped 2) Complete Medical Neurogenetics, LLC request form. Include test required, sample date and date of birth. 3) Label tubes with patient name and ID number, leaving the tube number viewable. 4) Place samples inside a specimen transport bag and the Medical Neurogenetics, LLC request form inside the pouch of the transport bag. 5) Ship samples frozen on dry ice.

Specimen Minimum Volume: 4.5 mL

Transport Temperature:
CSF Frozen

CPT Code Information: 82542; 83497; 83150;

Neurotransmitter Profile 3

Specimen Requirements: Medical Neurogenetics collection kit (MML Supply T657) required. Each collection kit contains 5 microcentrifuge tubes. COLLECTION PROTOCOL: 1) CSF should be collected from the first drop into the tubes in the numbered order. Fill each tube to the marked line with the required volumes. Tube 1: 0.5 mL Tube 2: 1.0 mL Tube 3: 1.0 mL (contains antioxidants necessary to protect the same integrity) Tube 4: 1.0 mL Tube 5: 1.0 mL - If samples not blood contaminated, the tubes should be placed on dry ice at bedside. - If samples are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes, then frozen. - Store samples at -80 until they can be shipped. 2) Complete Medical Neurogenetics, LLC request form, marking the following three tests: Neurotransmitter Metabolites, Tetrahydrobiopterin and 5-Methyltetrahydrofolate. Also include sample date and date of birth. 3) Label tubes with patient name and ID number, leaving the tube number viewable. 4) Place samples inside the specimen transport bag and the Medical Neurogenetics, LLC request form inside the pouch of the transport bag. 5) Ship samples frozen on dry ice.

Transport Temperature:
CSF Frozen
**CPT Code Information:** 82542 – 5-Methyltetrahydrofolate; 82542 – Tetrahydrobiopterin/Neopterin; 82542, 83497, 83150 – Neurotransmitter Metabolites/Amines; 

**Newborn Aneuploidy Detection, FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL

**Collection Instructions:**
1. Invert several times to mix blood.
2. Other anticoagulants are not recommended and are harmful to the viability of the cells.
3. Advise Express Mail or equivalent if not on courier service.
4. Cord blood is acceptable.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole blood: Ambient (preferred)
- Refrigerated

**CPT Code Information:**
- 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, 25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**Newborn Screen Recommended Panel, Blood Spot**

**Specimen Requirements:** To maximize the benefit of early identification the specimen should be collected as early as possible after 12 hours of age and before 1 week of age. Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood Spot Collection Card (T493) Acceptable: Ahlstrom 226 filter paper and Whatman Protein Saver 903 Paper Specimen Volume: 5 Blood spots Collection Instructions:
1. Do not use device or capillary tube containing EDTA to collect specimen.
2. Do not expose specimen to heat or direct sunlight.
3. Do not stack wet specimens.
4. Keep specimen dry.
5. If collection of a new specimen is necessary, let blood dry on the Blood Spot Collection Card (T493) at ambient temperature in a horizontal position for 3 hours. Additional Information:
1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions.
2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 3 completely filled circles on filter paper card

**Transport Temperature:**
- Blood Spot: Refrigerated (preferred) 7 days
  - Frozen: 14 days
  - Ambient: 7 days

**CPT Code Information:**
- 83789 -Mass spectrometry and tandem mass spectrometry (eg, MS, MS/MS, MALDI, MS-TOF, QTOF), non-drug analyte(s) not elsewhere specified, qualitative or quantitative, each specimen; 82261 - Biotinidase, each specimen; 83498 â€“ Hydroxyprogesterone, 17-d; 84443 - Thyroid stimulating hormone (TSH); 84436 - Thyroxine; total; 83516 - Immunoassay for
analyte other than infectious agent antibody or infectious agent antigen; qualitative or semiquantitative, multiple step method; 82776 - Galactose-1-phosphate uridyl transferase; screen; 82760 - Galactose; 83020 - Hemoglobin fractionation and quantitation; electrophoresis (eg, A2, S, C, and/or F); 81479 - Unlisted molecular pathology procedure;

**Newborn Screening Expanded Panel, Blood Spot**

**Specimen Requirements:** To maximize the benefit of early identification the specimen should be collected as early as possible after 12 hours of age and before 1 week of age. Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood Spot Collection Card (T493) Acceptable: Ahlstrom 226 filter paper and Whatman Protein Saver 903 Paper Specimen Volume: 5 Blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. Do not expose specimen to heat or direct sunlight. 3. Do not stack wet specimens. 4. Keep specimen dry. 5. If collection of a new specimen is necessary, let blood dry on the Blood Spot Collection Card (T493) at ambient temperature in a horizontal position for 3 hours. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 3 completely filled circles on filter paper card

**Transport Temperature:**
- Blood Spot Refrigerated (preferred) 7 days
- Frozen 14 days
- Ambient 7 days

**CPT Code Information:** 83789 -Mass spectrometry and tandem mass spectrometry (eg, MS, MS/MS, MALDI, MS-TOF, QTOF), non-drug analyte(s) not elsewhere specified, qualitative or quantitative, each specimen; 82261 - Biotinidase, each specimen; screen; 83498 --Hydroxyprogesterone, 17-d; 84443 - Thyroid stimulating hormone (TSH); 84436 - Thyroxine; total; 83516 - Immunoassay for analyte other than infectious agent antibody or infectious agent antigen; qualitative or semiquantitative, multiple step method; 82776 - Galactose-1-phosphate uridyl transferase; screen; 82760 â€“Galactose; 82960 - Glucose-6-phosphate dehydrogenase (G6PD); screen; 83020 - Hemoglobin fractionation and quantitation; electrophoresis (eg, A2, S, C, and/or F); 81479 - Unlisted molecular pathology procedure;

**Next-Generation Sequencing (NGS) Multiple Myeloma Pre-Analysis Cell Sorting, Bone Marrow**

**Specimen Requirements:** Only orderable as a reflex. See NGSMM / NGSMM Next-Generation Sequencing (NGS), Multiple Myeloma

**Specimen Minimum Volume:** Bone Marrow: 2 mL

**Transport Temperature:**
- Bone Marrow Ambient 4 days

**CPT Code Information:** 88184-Flow Cytometry; first cell surface, cytoplasmic or nuclear marker; 88185 x 4-Flow Cytometry, additional cell surface, cytoplasmic or nuclear marker (each);

**Next-Generation Sequencing (NGS), Acute Myeloid Leukemia**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Bone
marrow aspirate (preferred) Container/Tube: Preferred: EDTA (lavender top) or ACD (yellow top) Acceptable: Heparin (Green top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Peripheral blood Container/Tube: Preferred: EDTA (lavender top) or ACD (yellow top) Acceptable: Heparin (green top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA and source of specimen and indicate of volume and concentration of the DNA. Specimen Stability: Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume:** Blood, Bone Marrow: 1 mL Extracted DNA: 100 mcL at 20 ng/mcL concentration

**Transport Temperature:** Varies Varies 14 days

**CPT Code Information:** 81450-Targeted genomic sequence analysis panel, hematolymphoid neoplasm or disorder, DNA and RNA when performed, 5-50 genes (eg, BRAF, CEBPA, DNMT3A, EZH2, FLT3, IDH1, IDH2, JAK2, KRAS, KIT, MLL, NRAS, NPM1, NOTCH1), interrogation for sequence variants and copy number variants or rearrangements, or isoform expression of mRNA expression levels, if performed.

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**NGAML**

**Next-Generation Sequencing (NGS), Acute Myeloid Leukemia, 8-Gene Panel**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Bone marrow aspirate (preferred) Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Green top (heparin) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Peripheral blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Green top (heparin) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Extracted DNA Container/Tube: 1.5-2 mL tube with indication of volume and concentration of the DNA. Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA and source of specimen and provide indication of volume and concentration of the DNA. Specimen Stability: Frozen/Refrigerated/Ambient

**Specimen Minimum Volume:** Blood, Bone Marrow: 1 mL Extracted DNA: 100 mcL at 20 ng/mcL concentration

**Transport Temperature:** Varies Varies 14 days

**CPT Code Information:** 81450-Targeted genomic sequence analysis panel, hematolymphoid neoplasm or disorder, DNA and RNA when performed, 5-50 genes (eg, BRAF, CEBPA, DNMT3A, EZH2, FLT3, IDH1, IDH2, JAK2, KRAS, KIT, MLL, NRAS, NPM1, NOTCH1), interrogation for sequence variants and copy number variants or rearrangements, or isoform expression of mRNA expression levels, if performed.

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**NGSMM**

**NGSMM Next-Generation Sequencing (NGS), Multiple Myeloma**

**Specimen Requirements:** Specimen Type: Bone marrow aspirate Container/Tube: Lavender top
(EDTA) or yellow top (ACD) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. 4. Fresh specimen is required for this test, as testing is performed on sorted cells.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Bone Marrow Ambient 4 days

**CPT Code Information:** 81455- Targeted genomic sequence analysis panel, solid organ or hematolymphoid neoplasm, DNA and RNA analysis when performed, 51 or greater genes (eg, ALK, BRAF, CDKN2A, CEBPA, DNMT3A, EGFR, ERBB2, EZH2, FLT3, IDH1, IDH2, JAK2, KIT, KRAS, MLL, NPM1, NRAS, MET, NOTCH1, PDGRA, PDGFRB, PGR, PIK3CA, PTEN, RET), interrogation for sequence variants and copy number variants or rearrangements, if performed.

**Nickel, 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Plastic, 10-mL urine tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. Aliquot 10 mL in a plastic 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert 4. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.9 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 28 days

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**CPT Code Information:** 83885

**Nickel, Serum**

**Specimen Requirements:** Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 2 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days

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</table>
**CPT Code Information:** 83885

**Nickel/Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Plastic, 10-mL urine tube (T068) Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen in a plastic 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 83885 Nickel Concentration; 82570 Creatinine Concentration; 82509 Nicotine and Metabolites, Serum

**Nicotine and Metabolites, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.8 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 80323; G0480 (if appropriate);

**Nicotine and Metabolites, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5 mL, aliquot tube (T465) Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
  - Frozen 365 days
  - Ambient 14 days

**CPT Code Information:** 82510
**Nicotine Survey, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.8 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 80323

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**Niemann-Pick Disease, Types A and B, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient older than 1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches-3 mm diameter

**Transport Temperature:** Varies

**CPT Code Information:** 81479- Unlisted molecular pathology procedure; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);
**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2.6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Prenatal Specimens Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:**
- Blood: 0.5 mL
- Amniotic Fluid: 10 mL
- Chorionic Villi: 5 mg

**Transport Temperature:**
- Varies

**CPT Code Information:**
- 81330-SMPD1 (Sphingomyelin phosphodiesterase 1, acid lysosomal) (eg. Niemann-Pick disease, Type A) gene analysis, common variants (eg, R496L, L302P, fsP330); ; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ; Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); ; Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

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**Niemann-Pick Type C Detection, Fibroblasts**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

**Transport Temperature:**
- Tissue Varies

**CPT Code Information:**
- 82658-Niemann-Pick type C detection; 88233-Fibroblast culture; 88240-Cryopreservation for biochemical studies;

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**Niemann-Pick Type C Disease, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2.
Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated
Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full
T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours
Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg,
minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and
streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1%
penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information:
Refrigerated (preferred)/Ambient

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

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<tr>
<td>Refrigerated</td>
<td>7 days</td>
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**CPT Code Information:** 81404-NPC2 (Niemann-Pick disease, type C2 [epididymal secretory
protein E1]) (eg, Niemann-Pick disease type C2), full gene sequence; 81406-NPC1 (Niemann-Pick
disease, type C1) (eg, Niemann-Pick disease), full gene sequence; Fibroblast Culture for Genetic Test;
88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

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**Nitrogen, Total, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume:
10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. No preservative. Additional Information:
1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour
Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**

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<td>Urine</td>
<td>7 days</td>
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**CPT Code Information:** 84999

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**Nitrogen, Total, Feces**

**Specimen Requirements:** Patient Preparation: Laxatives and enemas should not be used during
collection. Supplies: Stool Containers - 24, 48, 72 Hours Kit (T291) Container/Tube: Stool container
(T291); complies with shipping requirements, do not use other containers. Specimen Volume: Entire
collection (24, 48, 72, or 96 hour) Collection Instructions: 1. Entire collection must be submitted which
should contain at least 5g to 10 g of feces. 2. See Stool Collection Information Sheet in Special
Instructions Additional Information: Barium and boric acid interfere with test procedure.

**Specimen Minimum Volume:** 2.5 g

**Transport Temperature:**

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<td>Fecal</td>
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CPT Code Information: 84999

**FNMR2 75033**

**NMR LipoProfile w/IR Markers**

**Specimen Requirements:** Submit only one of the following specimens: Serum Draw blood in a plain red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 2 mL serum refrigerate in a plastic vial. Note: 1. Patient should be fasting (12-14 hours) 2. Specimen must be received at LabCorp within 6 days of collection. 3. Label specimen appropriately (serum). Plasma Draw blood in a (lavender-top) EDTA tube(s). (Plasma gel tube is not acceptable.) Spin down and send 2 mL plasma refrigerate in a plastic vial. Note: 1. Patient should be fasting (12-14 hours) 2. Specimen must be received by LabCorp within 6 days of collection. 3. Label specimen appropriately (plasma).

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Varies Refrigerated 6 days

CPT Code Information: 80061; 83704;

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**SSF1 87294**

**Nocardia Stain**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: Entire collection Collection Instructions: Collect a raw specimen. Additional Information: Specimen source is required.

**Transport Temperature:**

Varies Refrigerated (preferred) 7 days

Ambient 7 days

CPT Code Information: 87206; 87176-Tissue processing (if appropriate);

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**NSIP 31769**

**Non-Seasonal Inhalant Allergen Profile**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

Frozen 90 days

CPT Code Information: 86003 x 10

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**NSRGP 63161**

**Noonan Syndrome and Related Disorders Multi-Gene Panel, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.
**LNORO 65170**

**Norovirus PCR, Molecular Detection, Feces**

**Specimen Requirements:**
Supplies: C and S Vial (T058) Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair, Para-Pak Culture and Sensitivity Media [C and S T058])
Specimen Volume: Representative portion of diarrheal stool, 1 gram or 5 mL
Collection Instructions: 1. Collect fresh stool and submit in container with transport medium.
2. Visibly formed stool is not consistent with Norovirus gastrointestinal disease and should not be submitted for testing.

**Transport Temperature:**
Fecal Ambient 7 days

**CPT Code Information:** 81479-CBL; 81404-HRAS; 81311-NRAS; 81405 x 2-KRAS, SHOC2; 81406 x 6-BRAF, MAP2K1, MAP2K2, PTPN11, RAF1, SOS1;

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**NEREG 31767**

**Northeast Regional Allergen Profile**

**Specimen Requirements:**
Container/Tube: Preferred: Red top Acceptable: Serum gel
Specimen Volume: 1 mL
Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003 x 10

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**NOTRP 37119**

**Nortriptyline, Serum**

**Specimen Requirements:**
Container/Tube: Red top Specimen Volume: 1 mL
Collection Instructions: 1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 7 days
NOTCH3 (CADASIL) Sequencing Test

**Specimen Requirements:**
- **Specimen Type:** Whole Blood Container/Tube: Lavender-top (EDTA)
- **Specimen Volume:** 8 mL
- **Collection Instructions:** Draw 8 mL whole blood in a lavender-top (EDTA) tube(s) and ship ambient. Note: Collection date is required.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**
- Whole blood: Ambient (preferred) - 10 days
- Refrigerated - 10 days

**CPT Code Information:** 80335; G0480 (if appropriate)

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NR4A3 (9q22.33) Rearrangement, FISH, Tissue

**Specimen Requirements:**
- Submit only 1 of the following specimens:
  - **Specimen Type:** Tissue Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block
  - **Specimen Type:** Slides
- **Specimen Volume:** Four Consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue: Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-NA probe, each; each additional probe set (if appropriate); 88271 x 1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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NT-Pro B-Type Natriuretic Peptide (BNP), Serum

**Specimen Requirements:**
- **Patient Preparation:** For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.
- **Collection Container/Tube:** Preferred: Serum gel Accepted: Red top Submission Container/Tube: Plastic vial
- **Specimen Volume:** 0.5 mL
- **Collection Instructions:**
  1. Serum gel tubes should be centrifuged within 2 hours of collection.
  2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Frozen (preferred) - 365 days

**CPT Code Information:** 84291
**NTXPR**

**NTX-Telopeptide, Urine**

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Plastic, 13-mL urine tube Specimen Volume: 4 mL Collection Instructions: 1. Collect second morning void. 2. No preservative.  

**Specimen Minimum Volume:** 0.5 mL  

**Transport Temperature:**  
Urine Frozen (preferred) 30 days  
Refrigerated 14 days  
Ambient 72 hours

**CPT Code Information:** 83880

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**NPM1**

**Nucleophosmin (NPM1) Mutation Analysis**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: EDTA (lavender top) or ACD-B (yellow top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: EDTA (lavender top) or ACD-B (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube with indication of volume and concentration of the DNA Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow.  

**Specimen Minimum Volume:** Blood, Bone Marrow: 0.5; Extracted DNA from Blood or Bone Marrow: 10 microliter at 20 ng/microliter  

**Transport Temperature:** Varies Ambient (preferred) 7 days  
Refrigerated 7 days

**CPT Code Information:** 82570; 82523;

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**NUT**

**NUT Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
**NUT1F**

**NUTM1 (15q14) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Specimen Type: Slides Specimen Volume: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271 x 1-DNA probe, each; each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; each; coverage for sets containing 5 probes (if appropriate); 88274-w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);
Serum Refrigerated (preferred)  14 days  
Frozen  90 days

**CPT Code Information:** 86003 x 5

**FNGPG**  57930  
**Nuts and Grains Panel IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  28 days  
Frozen  365 days  
Ambient  7 days

**CPT Code Information:** 86001 x 17

**FOAKE**  57999  
**Oak Live (Quercus virginiana) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  28 days  
Frozen  365 days  
Ambient  28 days

**CPT Code Information:** 86003

**FROE**  57907  
**Oak Red (Quercus rubra) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  28 days  
Frozen  365 days  
Ambient  28 days

**CPT Code Information:** 86003
Oak, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Oat IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

Oat, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

Occupational Panel # 2

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
CPT Code Information: 86003

**OCT2 70522**

**OCT-2 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**OCT4 70523**

**OCT3/4 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**OCTO 82820**

**Octopus, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003
Olanzapine (Zyprexa)

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Frozen: 180 days
- Ambient: 72 hours

**CPT Code Information:** 80342

OLIG2

**OLIG2 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25-x 75-x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient
  - (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

OLIG

**Oligoclonal Banding, Serum and Spinal Fluid**

**Specimen Requirements:** Both serum and spinal fluid are required. Spinal fluid must be obtained within 1 week of serum draw. Specimen Type: Serum Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Collection Instructions: Label specimen as serum. Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 0.5 mL Collection Instructions: Label specimen as spinal fluid.

**Specimen Minimum Volume:** Serum: 0.4 mL/Spinal Fluid: 0.4 mL

**Transport Temperature:**
- CSF Refrigerated (preferred): 14 days
- Ambient: 14 days
- Frozen: 14 days
- Serum Refrigerated (preferred): 14 days
- Ambient: 14 days
- Frozen: 14 days

**CPT Code Information:** 83916-Spinal fluid; 83916-Serum;
Oligosaccharide Screen, Random, Urine

**Specimen Requirements:** Only orderable as part of a profile. See LYSDU / Lysosomal Storage Disorders Screen, Urine. For information regarding oligosaccharides, see OLIGU / Oligosaccharide Screen, Urine. Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 6 mL Pediatric Volume: 2 mL Collection Instructions: 1. Collect a random urine specimen (early morning preferred). 2. Immediately freeze specimen.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Frozen (preferred) 365 days
- Refrigerated 15 days
- Ambient 7 days

**CPT Code Information:** 84377

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Oligosaccharide Screen, Urine

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 8 mL Pediatric Volume: 2 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. 3. Immediately freeze specimen.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Frozen (preferred) 365 days
- Refrigerated 15 days
- Ambient 7 days

**CPT Code Information:** 84377

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Olive Black IgG

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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Olive Russian (Elaeagnus angustifolia) IgE

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

**OLIV 82733**

**Olive Tree, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**OLIVF 86306**

**Olive-Food, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**NGSHM 63367**

**OncoHeme Next-Generation Sequencing (NGS), Hematologic Neoplasms**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood Container/Tube: Preferred: EDTA (lavender top) or ACD (yellow top) Acceptable: Heparin (green top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Ambient (preferred)/Refrigerate Specimen Type: Bone marrow aspirate Container/Tube: Preferred: EDTA (lavender top) or ACD (yellow top) Acceptable: Heparin (green top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow. Specimen Stability: Ambient (preferred)/Refrigerate
Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube with indication of volume and concentration of the DNA. Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA and source of specimen. Specimen Stability: Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume:** Blood, Bone Marrow: 1 mL Extracted DNA: 100 mcL at 20 ng/mcL concentration

**Transport Temperature:**
Varies
Varies
14 days

**CPT Code Information:** 81450-Targeted genomic sequence analysis panel, hematolymphoid neoplasm or disorder, DNA and RNA when performed, 5-50 genes (eg, BRAF, CEBPA, DNMT3A, EZH2, FLT3, IDH1, IDH2, JAK2, KRAS, KIT, MLL, NRAS, NPM1, NOTCH1), interrogation for sequence variants and copy number variants or rearrangements, or isoform expression of mRNA expression levels, if performed.

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**FONG 57636**

**Onion IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

**CPT Code Information:** 86001

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**ONIN 82806**

**Onion, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions. **Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**OPTMX 62736**

**Opiate Confirmation, Chain of Custody, Meconium**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required. Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: 1. Specimen that arrives with a broken seal does not meet the chain of custody requirements. 2. The laboratory recommends sending chain-of-custody specimens by overnight shipment.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)
Transport Temperature:
Meconium Frozen (preferred) 28 days
Refrigerated 28 days
Ambient 14 days

CPT Code Information: 80361; 80365; G0480 (if appropriate);

OPATM 84326  Opiate Confirmation, Meconium
Specimen Requirements: Supplies: Stool container. Small (Random), 4 oz (T288)
Container/Tube: Stool container (T288) Specimen Volume: 1 g (approximately 1 teaspoon) Collection
Instructions: Collect entire random meconium specimen.
Specimen Minimum Volume: 0.3 g (approximately 1/4 teaspoon)
Transport Temperature:
Meconium Frozen (preferred) 28 days
Refrigerated 28 days
Ambient 14 days

CPT Code Information: 80361; 80365; G0480 (if appropriate);

OPATX 62735  Opiates Confirmation, Chain of Custody, Urine
Specimen Requirements: Specimen Type: Urine Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL
Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information 1. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADLTX / Adulterants Survey, Chain of Custody, Urine. For additional information, please refer to ADLTX / Adulterants Survey, Chain of Custody, Urine. 2. Submitting <20 mL will compromise our ability to perform all necessary testing.
Specimen Minimum Volume: 2.5 mL
Transport Temperature:
Urine Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 14 days

CPT Code Information: 80361; 80365; G0480 (if appropriate);

OPATU 8473  Opiates Confirmation, Urine
Specimen Requirements: Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order OPATX / Opiates Confirmation, Chain of Custody, Urine. 2. If urine creatinine is required or adulteration of the sample is suspected, the following test should be...
requested, ADULT / Adulterants Survey, Urine. For additional information, refer to ADULT / Adulterants Survey, Urine. 3. Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 14 days

**CPT Code Information:** 80361; 80365; G0480 (if appropriate);

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**FOPIA**

**75030**

**Opiates, Serum or Plasma, Quantitative**

**Specimen Requirements:** Submit only one of the following: Plasma Draw blood in a gray top potassium oxalate/sodium fluoride, green (sodium heparin), lavender (EDTA) or pink (K2EDTA) tube(s). Spin down and send 1 mL of plasma refrigerated in a plastic vial. Serum Draw blood in a plain, red-top tube(s). Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
- Ambient 7 days
- Frozen

**CPT Code Information:** 80361, 80365

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**OPRM1**

**89612**

**Opioid Receptor, Mu 1 (OPRM1) Genotype for Naltrexone Efficacy, Blood**

**Specimen Requirements:** Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole Blood EDTA Ambient (preferred)
- Refrigerated

**CPT Code Information:** 81479

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**OPRMO**

**60352**

**Opioid Receptor, Mu 1 (OPRM1) Genotype for Naltrexone Efficacy, Saliva**

**Specimen Requirements:** Multiple saliva genotype tests can be performed on a single specimen
after a single extraction. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Supplies: DNA Self-Collection Kit (T651: fees apply) Container/Tube: Oragene DNA Self-Collection Kit (T651) Specimen Volume: Full tube Collection Instructions: 1. Fill tube to line. 2. Send specimen in original container per kit instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Saliva Ambient

**CPT Code Information:** 81479

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**Orange IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
- Frozen: 365 days
- Ambient: 7 days

**CPT Code Information:** 86001

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**Orange Roughy IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
- Frozen: 365 days
- Ambient: 28 days

**CPT Code Information:** 86003

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**Orange, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
**ORCH 82907**

**Orchard Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**FORGG 57661**

**Oregano IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**OREG 82496**

**Oregano, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003
Organic Acids Screen, Urine

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 10 mL
Pediatric: If insufficient collection volume, submit as much specimen as possible in a single container; the laboratory will determine if volume is sufficient for testing. Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 4 mL

**Transport Temperature:**
Urine Frozen (preferred) 416 days
Refrigerated 14 days

**CPT Code Information:** 83919

Organism Referred for Identification, Aerobic Bacteria

**Specimen Requirements:** Supplies: Infectious Container, Large (T146) Specimen Type: Pure culture of organism from source cultured Container/Tube: Agar slant or other appropriate media Specimen Volume: Entire specimen Collection Instructions: 1. Perform isolation of infecting bacteria. 2. Bacterial organism must be submitted in pure culture, actively growing. Do not submit mixed cultures.

**Specimen Minimum Volume:** NA

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:** 87077-Organism Referred for Identification, Aerobic Bacteria; 87077-Identification Commercial Kit (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate); 87077-Bacteria Identification (if appropriate); 87153-Aerobe Ident by Sequencing (if appropriate); 87077-Additional Identification Procedure (if appropriate); 87147 x 3-Serologic Agglut Method 1 Ident (if appropriate); 87147-Serologic Agglut Method 2 Ident (if appropriate); 87147 x 4-Serologic Agglut Method 3 Ident (if appropriate); 87147 x 2-6 - Serologic Agglut Method 4 Ident (if appropriate); 87077-Identification Staphylococcus (if appropriate); 87077-Identification Streptococcus (if appropriate); 87798-Identification by PCR (if appropriate);

Organism Referred for Identification, Anaerobic Bacteria

**Specimen Requirements:** Supplies: Anaerobic Transport Tube (T588) Thioglycollate broth or any other suitable anaerobic transport system Infectious Container, Large (T146) Specimen Type: Pure culture of organism from a source not normally colonized by anaerobes Acceptable Sources: Abscesses, percutaneous transtracheal aspirates, sterile body fluids, suprapubic aspirations, or wounds Container/Tube: Preferred: Anaerobic transport tube (T588) Acceptable: Thioglycollate broth or any other suitable anaerobic transport system Collection Instructions: 1. Perform isolation of infecting bacteria. 2. Bacterial organism must be submitted in pure culture, actively growing. Do not submit mixed cultures.

**Specimen Minimum Volume:** NA

**Transport Temperature:**
Varies Ambient (preferred)
**CPT Code Information:** 87076-Organism ref for ID, anaerobic bact; 87076-Id MALDI-TOF mass spec anaerobe (if appropriate); 87076-Anaerobe Ident (if appropriate); 87153-Anaerobe ident by sequencing (if appropriate); 87077-Identification commercial kit (if appropriate); 87077-Ident by MALDI-TOF mass spec (if appropriate); 87077-Bacteria identification (if appropriate); 87077-Additional identification procedure (if appropriate); 87077-Identification Staphylococcus (if appropriate); 87077-Identification Streptococcus (if appropriate); 87147 x 3-Serologic agglut method 1 ident (if appropriate); 87147-Serologic agglut method 2 ident (if appropriate); 87147 x 4-Serologic agglut method 3 ident (if appropriate); 87147 x 2-6 - Serologic Agglut Method 4 Ident (if appropriate); 87153-Aerobe ident by sequencing (if appropriate); 87798-Identification by PCR (if appropriate);

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**FOPMU 75360**

**Organophosphate Pesticide Metabolites, Urine**

**Specimen Requirements:** Container/Tube: Plastic, preservative-free urine container Specimen Volume: 2 mL Collection Instructions: 1. Collect 2 mL random urine specimen without preservative. 2. Ship refrigerated in a plastic container.

**Specimen Minimum Volume:** 0.95 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 30 days
  - Frozen 30 days
  - Ambient 5 days

**CPT Code Information:** 82270; 84430; 81002, if appropriate;

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**OROT 8905**

**Orotic Acid, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube Specimen Volume: 10 mL Collection Instructions: 1. Collect a random or timed urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Urine Frozen 30 days

**CPT Code Information:** 83921

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**FORRT 57968**

**Orris Root (Iris florentina) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 28 days
**Orthostatic Protein, Timed Collection, Urine**

**Specimen Requirements:**
- Supplies: 2 Aliquot Tube, 5 mL (T465) Daytime Collection
- Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL
- Collection Instructions: 1. Collect a 16-hour (daytime) urine specimen. 2. No preservative. 3. Invert well before taking 4-mL aliquot. 4. Do not overfill aliquot tube 4 mL at most. 5. Collect specimen per instructions in Orthostatic Protein Measurement 24-Hour Urine Collection Site Instructions (T546) in Special Instructions. Nighttime (Supine) Collection
- Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL
- Collection Instructions: 1. Collect an 8-hour (nighttime) urine specimen. 2. No preservative. 3. Invert well before taking 4-mL aliquot at most.

**Specimen Minimum Volume:**
- 1 mL from 16-hour (daytime) urine collection/1 mL from 8-hour (nighttime) urine collection

**Transport Temperature:**
- Urine: Refrigerated (preferred) 14 days
- Frozen: 14 days
- Ambient: 24 hours

**CPT Code Information:** 86003

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**Osmolality, Body Fluid**

**Specimen Requirements:**
- Collection Container/Tube: Sterile container Submission
- Container/Tube: Plastic vial Specimen Volume: 1 mL
- Collection Instructions: Centrifuge to remove any cellular material. Additional Information: Test is appropriate for anybody fluid except serum or urine

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Body Fluid: Frozen (preferred) 7 days
- Refrigerated: 7 days

**CPT Code Information:** 84156 x 2

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**Osmolality, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 7 days
- Frozen: 7 days
- Ambient: 24 hours

**CPT Code Information:** 83930
**CPT Code Information:** 83930

**UOMSU 9260**

**Osmolality, Urine**

**Specimen Requirements:** Supplies: Urine tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube Specimen Volume: 5 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 83935

**FRAG 9064**

**Osmotic Fragility, Erythrocytes**

**Specimen Requirements:** Both a whole blood EDTA specimen and a control specimen are required. Patient: Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: 1. Immediately refrigerate specimen after draw. Refrigerate at 0 to 4°C. Do not freeze. Freezing causes sample lysis, and tests will not be performed on hemolyzed specimens. 2. Send specimen in original tube. Do not aliquot. 3. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results. 4. Be sure specimen and control are stored and transported together at refrigerator temperature, carefully following proper handling and shipping instructions. Normal Shipping Control: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated, nonsmoking person at the same time as the patient. 2. Label clearly on outermost label normal control. 3. Immediately refrigerate specimen after draw. Refrigerate at 0 to 4°C. Do not freeze. Freezing causes sample lysis, and tests will not be performed on hemolyzed specimens. 4. Send specimen in original tube. Do not aliquot. 5. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Control Refrigerated 72 hours
- Whole Blood EDTA Refrigerated 72 hours

**CPT Code Information:** 85557

**OSCAL 80579**

**Osteocalcin, Serum**

**Specimen Requirements:** Patient Preparation: 1. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. 2. Fasting (12 hours) Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 14 days
OAPNS 39855  
**Ova and Parasite Examination, Non-Stool**

**Specimen Requirements:** Specimen Type: Bile Container/Tube: Sterile container Specimen Volume: Entire collection Specimen Type: Bone marrow Container/Tube: Lavender top EDTA and/or slides Specimen Volume: 4 mL Collection Instructions: 1. Bone marrow and/or slides will be accepted for this test. 2. If submitting slides with EDTA tube, label and bag specimens together. Submit to lab refrigerate as 1 collection. Specimen Type: Spinal fluid Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Fluid, abscess, drainage material Sources: Abdominal, ascites, brain, cyst, liver, lymphatic, peritoneal, splenic Container/Tube: Sterile container Specimen Volume: 15 mL Collection Instructions: 1. Place half of collection into preservative (Ecofix or PVA and Formalin) in a ratio of 1:1. 2. Place other half of collection in a sterile container. 3. Label both specimens, bag together, and submit to lab refrigerate as 1 collection. Specimen Type: Respiratory specimens including bronchial washing, bronchoalveolar lavage, sputum Container/Tube: Sterile container Specimen Volume: Entire Collection Instructions: Place specimen in 1 to 2 drops of sterile saline to keep tissue moist.

**Specimen Minimum Volume:** Respiratory specimens, spinal fluid, abscess, or drainage material: 0.5 mL; tissue: 3 mm

**Transport Temperature:** Refrigerated 5 days

**CPT Code Information:** 87015-Concentration (any type), for infectious agents (if applicable); 87209-Smear, primary source with interpretation; complex special stain (eg, trichrome, iron hematoxylin) for ova and parasites (If applicable); 87210-Wet mount for infectious agents (if applicable); 87207-Smear, primary source, with interpretation; special stain for inclusion bodies or intracellular parasites (if applicable);

OVAL 82826  
**Ovalbumin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:** Serum Refrigerated (preferred) 14 days

Frozen 90 days

**CPT Code Information:** 86008

FOVAS 57836  
**Ovarian Antibody Screen with Reflex to Titer, IFA**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.
**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 7 days

**CPT Code Information:** 86255; 86256 (if appropriate);

**OVMU 82825**

**Ovomucoid, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86008

**OXI 82679**

**Ox-Eye Daisy, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**OXVM1 41976**

**OXA-48 and VIM, PCR (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies

**CPT Code Information:** 87798 x2
**OXVRP 65043**  
**OXA-48-like (blaOXA-48-like) and VIM (blaVIM) in Gram-Negative Bacilli, Molecular Detection, PCR**  
**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by oxacillin-hydrolyzing beta-lactamase (OXA-48-like) or Verona integron-encoded metallo-beta-lactamase (VIM) DNA is unlikely. Supplies: Infectious Container, Large (T146) Collection Container/Tube: Slant Specimen Volume: Isolate Collection Instructions: 1. Perform isolation of infecting bacteria. 2. Bacterial organism must be submitted in pure culture, actively growing. Do not submit mixed cultures.  
**Transport Temperature:**  
Variates Ambient  
(preferred)  
Refrigerated  

**CPT Code Information:** 87798 x 2

**OVSRP 65042**  
**OXA-48-like (blaOXA-48-like) and VIM (blaVIM) Surveillance, PCR**  
**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by oxacillin-hydrolyzing beta-lactamase (OXA-48-like) or Verona integron-encoded metallo-beta-lactamase (VIM) DNA is unlikely. Submit only 1 of the following specimens: Preferred: Specimen Type: Perianal, perirectal, rectal, anal Collection Container/Tube: Culture transport swab Acceptable: Supplies: Cary-Blair or Para-Pak C and S Vial (T058) Specimen Type: Preserved stool Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S) Specimen Volume: Representative portion of stool Collection Instructions: Collect fresh stool and submit 1 gram or 5 mL in container with transport medium.  
**Transport Temperature:**  
Variates Refrigerated (preferred) 7 days  
Refrigerated 7 days  

**CPT Code Information:** 87798 x 2

**DOXA 61644**  
**Oxalate Analysis in Hemodialysate**  
**Specimen Requirements:** Patient Preparation: Patient should avoid taking vitamin C supplements for 24 hours prior to dialysis. Supplies: Urine tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 5 mL Collection Instructions: Adjust the pH of the specimen to 2.5 to 3.0 with 6N HCl. Additional Information: Nonacidified frozen hemodialysate delivered to the laboratory within 3 days from collection will be accepted and the following comment will be added to the result: In nonacidified hemodialysate stored frozen, oxalate values may increase spontaneously up to 30% (average 11% increase for dialysate oxalate stored for 48 hours, frozen, nonacidified).  
**Specimen Minimum Volume:** 2 mL  
**Transport Temperature:**  
Dialysate Fluid Frozen 14 days
**Oxalate, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL urine tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert
Specimen Volume: 4 mL
Collection Instructions: 1. Add 30 mL of toluene as preservative at start of collection or refrigerate specimen during and after collection. 2. Collect urine for 24 hours. 3. Specimen pH should be between 4.5 and 8 and will stay in this range if kept refrigerated. Specimens with pH >8 may indicate bacterial contamination, and testing will be cancelled. Do not attempt to adjust pH as it will adversely affect results. Additional Information: 1. 24-Hour volume is required. 2. Avoid taking large doses (>2 g orally/24 hours) of vitamin C during specimen collection. 3. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days

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**Oxalate, Pediatric, Random, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068)
Specimen Volume: 7 mL
Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. 3. Specimen pH should be between 4.5 and 8 and will stay in this range if kept refrigerated. Specimens with pH >8 may indicate bacterial contamination, and testing will be cancelled. Do not attempt to adjust pH as it will adversely affect results. Additional Information: 1. A timed 24-hour urine collection is the preferred specimen for measuring and interpreting this urinary analyte. Random collections normalized to urinary creatinine may be of some clinical use in patients who cannot collect a 24-hour specimen, typically small children. Therefore, this random test is offered for children <16 years old. 2. Avoid taking large doses (>2 g orally/24 hours) of vitamin C prior to specimen collection.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days

---

**Oxalate, Plasma**

**Specimen Requirements:** Any client who has never drawn a specimen for this test should call 800-533-1710 or 507-266-5700 and ask for the Renal Laboratory for more detailed instructions.
Patient Preparation: 1. Fasting (12 hours) 2. Patient should avoid taking vitamin C supplements for 24 hours prior to draw.
Specimen Type: Acidified plasma
Container/Tube: Plastic, 5-mL urine tube (T068)
Submission Container/Tube: Plastic via Specimen Volume: 5 mL
Collection Instructions: 1. Place on wet ice immediately. 2. Centrifuge for 10 minutes at 3,500 rpm at 4°C within 1 hour of draw. 3. Adjust the pH of the plasma specimen to a pH of 1 to 3.5 (ideal range is 2.3-2.7) with approximately 10 mL concentrated (12N) HCl per 1 mL plasma. Additional Information: Nonacidified specimen can be accepted if the heparinized plasma is properly frozen. However, a disclaimer will be added in nonacidified
plasma, oxalate values may increase spontaneously (average 50% increase for plasma oxalate <15 mcmol/L; average 10% increase for plasma oxalate >15 mcmol/L).

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Plasma Na Heparin  Frozen 14 days

**CPT Code Information:** 83945

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**FOXAZ**

**Oxazepam (Serax), Serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
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<tr>
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**CPT Code Information:** 80346; G0480 (if appropriate);

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**OMHC**

**Oxcarbazepine Metabolite (MHC), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red  Refrigerated (preferred) 28 days

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
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**CPT Code Information:** 80183

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**FOFUS**

**Oxycodone - Free (Unconjugated), Serum**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 2 mL of serum refrigerate in a preservative-free plastic vial.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
Serum Red  Refrigerated (preferred) 30 days

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<tr>
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<tr>
<td>Ambient</td>
<td>30 days</td>
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CPT Code Information: 80365

**OXYSX**

**61727**

**Oxycodone Screen, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**

Urine Refrigerated (preferred) 14 days

Frozen 14 days

Ambient 72 hours

CPT Code Information: 80307

**OXYSU**

**62623**

**Oxycodone Screen, Urine**

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order OXYSX / Oxycodone Screen, Chain of Custody, Urine. 2. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**

Urine Refrigerated (preferred) 14 days

Frozen 14 days

Ambient 72 hours

CPT Code Information: 80307

**OXYCX**

**61728**

**Oxycodone with Metabolite Confirmation, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
**Oxycodone with Metabolite Confirmation, Urine**

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are acceptable for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order OXYCX / Oxycodone with Metabolite Confirmation, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterant Survey, Urine. For additional information, please refer to ADULT / Adulterant Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 14 days

**CPT Code Information:** 80365; G0480 (if appropriate);

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**Oxygen Dissociation, P50, Erythrocytes**

**Specimen Requirements:** Both a whole blood sodium heparin patient specimen and a control specimen are required. Patient: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Immediately refrigerate specimens after draw. Keep at refrigerated temperatures 2 to 8°C. Do not freeze. Freezing causes sample lysis, and tests will not be performed on hemolyzed specimens. 2. Send specimen in original tube. Do not aliquot. 3. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results. 4. Be sure specimen and control are stored and transported together at refrigerate temperature, carefully following proper handling and shipping instructions. Normal Shipping Control: Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated, nonsmoking person at the same time as the patient. 2. Label clearly on outermost label normal control. 3. Immediately refrigerate specimen after draw. Keep at refrigerated temperatures 2 to 8°C. Do not freeze. 4. Send specimen in original tube. Do not aliquot. 5. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Control Refrigerated 72 hours
- WB Sodium Heparin Refrigerated 72 hours

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**Oxymorphone Confirmation, Urine**

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 20 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order OXYCX / Oxycodone with Metabolite Confirmation, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 14 days

**CPT Code Information:** 82820

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**Oxysterols, Blood Spots**

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Card-Postmortem Screening (Filter Paper) (T525) Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) (T493) Acceptable: Ahlstrom 226 filter paper, Munktell filter paper, and dried blood spots from Blood Spot Collection Card (T493) or Postmortem Screening Card (T525) Specimen Volume: 2 blood spots Collection Instructions: 1. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours. 2. At least 1 spot should be complete, ie, unpunched. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. Dried blood spots collected with EDTA, sodium heparin, lithium heparin, ACD A- or ACD B-containing devices are acceptable. 2. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 3. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** One blood spot

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 35 days
- Ambient 35 days
- Frozen 35 days

**CPT Code Information:** 80365; G0480 (if appropriate);
**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Plasma Frozen (preferred) 29 days
- Ambient 14 days
- Refrigerated 14 days

**CPT Code Information:** 82542

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**OYST 82883**

**Oyster, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FPZ 91495**

**P0 (Pzero) Antibodies**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1.0 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 5 days
- Frozen 365 days

**CPT Code Information:** 84182

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**P16 70524**

**p16 (INK4a/CDKN2A) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
- Refrigerated
**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**P40NA**

**p40 + Napsin A Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88344-TC

**P40**

**p40 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**P53**

**p53 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**P57I**

**p57 (KIP2/CDKN1C) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
Transport Temperature:
TECHONLY Ambient  
(preferred)  
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**P62 70629**

**p62 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient  
(preferred)  
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**P63 70530**

**p63 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient  
(preferred)  
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**SQUI 82821**

**Pacific Squid, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

CPT Code Information: 86003
Pain Clinic Drug Screen, Chain of Custody, Urine

**Specimen Requirements:** Supplies: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 30 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: 1. Submitting less than 30 mL will compromise our ability to perform all necessary testing. 2. Not intended for use in employment-related testing.

**Specimen Minimum Volume:** 25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80307

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Pain Clinic Drug Screen, Urine

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 30 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 30 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. No STATS are accepted for this procedure. 3. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order PDSOX / Pain Clinic Drug Screen, Chain of Custody, Urine. 4. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 5. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 6. Submitting less than 30 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 80307

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Pain Clinic Immunoassay Panel, Urine

**Specimen Requirements:** Only orderable as part of profile. For more information see PNCSU / Pain Clinic Survey, Urine. Container/Tube: Plastic, 60-mL urine bottle Specimen Volume: 30 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours
CPT Code Information: 80307

PN 62911X

**Pain Clinic Survey 10, Chain of Custody**

**Specimen Requirements:** Only orderable as part of a profile. For more information see PANOX / Pain Clinic Survey 10, Chain of Custody, Urine.

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

CPT Code Information: 80307

PANOX 62737

**Pain Clinic Survey 10, Chain of Custody, Urine**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 30 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting less than 30 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 20 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

CPT Code Information: 80307

PNCSU 65062

**Pain Clinic Survey, Urine**

**Specimen Requirements:** Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 60-mL urine container (T-313) Specimen Volume: 30 mL Collection Instructions: 1. Collect a random urine specimen. 2. Submit 30 mL in 1 plastic bottle. 3. No preservative. Additional Information: 1. No specimen substitutions. 2. Submitting less than 30 mL will compromise our ability to perform all necessary testing. 3. No STATS are accepted for this procedure. 4. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order PANOX / Pain Clinic Survey 10, Chain of Custody, Urine. 5. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700.

**Specimen Minimum Volume:** 20 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours
### Pancreastatin
**CPT Code Information:** PNRCH - 80307; TOPSU - 80364, G0480 (if appropriate);

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Specimen Requirements</th>
<th>Transport Temperature</th>
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</thead>
<tbody>
<tr>
<td>FPANS</td>
<td>Pancreastatin</td>
<td>Collect blood in special tube containing G.I. Preservative (MML supply number T669). Specimen should be separated and 2 mL plasma frozen as soon as possible. NOTE: 1) Patient should be fasting 10 â€“ 12 hours prior to collection. 2) Patient should not be on any medications that may influence Insulin levels, if possible, for at least 48 hours prior to collection.</td>
<td>GI Plasma Frozen 60 days</td>
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<td>57129</td>
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<td><strong>Specimen Minimum Volume:</strong> 1 mL</td>
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<td></td>
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<td>GI Plasma Frozen 60 days</td>
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### Pancreatic Elastase-1
**CPT Code Information:** 83519

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<tr>
<td>FPAN1</td>
<td>Pancreatic Elastase-1</td>
<td>Preferred Specimen Type: Undiluted stool Supplies: Clean, dry, sterile leak-proof stool container Container/Tube: Clean, dry, sterile leak-proof stool container</td>
<td>Fecal Refrigerated (preferred) 7 days</td>
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<td>75362</td>
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<td>Specimen Volume: 1 g Specimen Stability Information: Refrigerated Collection Instructions: 1 gram undiluted feces in clean, dry, sterile leak-proof container. Do not add fixative or preservative. Ship refrigerated.</td>
<td>Frozen 365 days</td>
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### Pancreatic Polypeptide, Plasma
**CPT Code Information:** 83519

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<th>Specimen Requirements</th>
<th>Transport Temperature</th>
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<tbody>
<tr>
<td>HPP</td>
<td>Pancreatic Polypeptide, Plasma</td>
<td>Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 3 mL Collection Instructions: 1. Fasting (8 hours) 2. Specimen must be kept cold at all times following draw. 3. Refrigerated centrifuge is not required. Additional Information: Include patient's age.</td>
<td>Plasma EDTA Frozen 90 days</td>
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<td><strong>Specimen Minimum Volume:</strong> 0.35 mL</td>
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<td><strong>Specimen Minimum Volume:</strong> 0.35 mL</td>
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### Papain, IgE
**CPT Code Information:** 83519

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<td>PAPN</td>
<td>Papain, IgE</td>
<td>Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from</td>
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</tbody>
</table>
the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86008

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**PAPY**

**Papaya, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**PAPR**

**Paprika, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**PFIB**

**Parafibromin, Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostains Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
Refrigerated

**PARAV**

**Parainfluenza Virus (Types 1, 2, 3) Antibodies, Serum**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). Spin down and send 1 mL of serum refrigerated. Note: Serum gel tube is acceptable, but must pour off into a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Ambient (preferred) 7 days
- Frozen 30 days
- Refrigerated 14 days

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**PAVAL**

**Paraneoplastic, Autoantibody Evaluation, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 83519-ACh receptor (muscle) binding antibody; 83519-AChR ganglionic neuronal antibody; 83519-Neuronal VGKC autoantibody; 83519-N-type calcium channel antibody; 83519-P/Q-type calcium channel antibody; 83520-Striational (striated muscle) antibodies; 86255-AGNA-1; 86255-Amphiphysin; 86255-ANNA-1; 86255-ANNA-2; 86255-ANNA-3; 86255-CRMP-5-IgG; 86255-PCA-1; 86255-PCA-2; 86255-PCA-Tr; 83519-ACh receptor (muscle) modulating antibodies (if appropriate); 84182-Amphiphysin Western blot (if appropriate); 84182-CRMP-5-IgG Western blot (if appropriate); 84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86255-AMPIS (if appropriate); 86255-NMDCS (if appropriate); 86256-AMPIS (if appropriate); 86256-GABIS (if appropriate); 86256-NMDCS (if appropriate); 86341-GAD65 antibody assay (if appropriate); 86255-CS2CS (if appropriate);

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**PAC1**

**Paraneoplastic, Autoantibody Evaluation, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 4 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 28 days

**CPT Code Information:** 86790 x 3
Parasite Identification

**Specimen Requirements:** Specimen Type: Parasitic worms, insects, or mites Container/Tube: Sterile container (10% formalin or 70% alcohol may be added if appropriate specimen type) Specimen Volume: Entire specimen Collection Instructions: 1. For scabies, submit skin scrapings on glass microscope slide. Cover with a clean slide and use a rubber band to hold the 2 slides together. Place the slides in a clean, dry container for transport. 2. Submit whole worms and worm segments in 70% alcohol or formalin. 3. Submit arthropods (ticks, lice, nits, bed bugs, etc) in a clean, dry container.

**Specimen Minimum Volume:** See Specimen Required.

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 87168-Arthropod (if appropriate); 87169-Parasite (if appropriate);

Parasitic Examination

**Specimen Requirements:** Patient Preparation: Specimen collection should be delayed for 7 to 10 days after administration of barium, bismuth, kaolin, magnesia, castor oil or mineral oil, and 2 to 3 weeks after antibiotics have been given since these may interfere with identification of protozoa.

Specimen Type: Stool, duodenal aspirate, colonic washing Supplies: ECOFIX Stool Transport Vial (Kit) (T219) Preferred: ECOFIX preservative (T219) Acceptable: 10% Buffered Formalin Stool Transport plus Polyvinyl Acetate (PVA) Stool Transport Specimen Volume: Portion of stool; or entire collection of intestinal specimen Collection Instructions: 1. Place specimen into preservative within 30 minutes of passage or collection. 2. Follow instructions on the container as follows: a. Mix the contents of the tube with the spoon, twist the cap tightly closed, and shake vigorously until the contents are well mixed. Refer to the fill line on the Ecofix vial for stool specimens. b. Do not fill above the line indicated on the container. c. Duodenal aspirates, small bowel aspirates, or colonic washings should be placed in Ecofix in a ratio of 1:1 Additional Information: Stool placed in 10% buffered formalin can be accepted if accompanied by a PVA-preserved specimen; 10% buffered formalin-preserved specimens submitted without an accompanying PVA-preserved specimen will be canceled.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Fecal Ambient (preferred) 21 days
- Refrigerated 21 days

**CPT Code Information:** 86255-AGNA-1; 86255-Amphiphysin; 86255-ANNA-1; 86255-ANNA-2; 86255-ANNA-3; 86255-CRMP-5-IgG; 86255-PCA-1; 86255-PCA-2; 86255-PCA-Tr; 83519-VGKCC (if appropriate); 84182-Amphiphysin Western blot (if appropriate); 84182-CRMP-5 Western blot confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS (if appropriate); 86255-AMPCC (if appropriate); 86255-GABCC (if appropriate); 86256-AMPIC (if appropriate); 86256-GABIC (if appropriate); 86256-NMDIC (if appropriate); 86341-GAD65 confirmation (if appropriate); 86255-NMO/AQP4-IgG FACS titer (if appropriate); 86255-LG1CC (if appropriate); 86255-CS2CC (if appropriate);
CPT Code Information: 87177-Concentration (any type), for infectious agents; 87209-Smear, primary source with interpretation; complex special stain (eg, trichrome, iron hematoxylin) for ova and parasites;

**PTH**

70544

**Parathyroid Hormone (PTH) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)

Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**PTH2**

28379

**Parathyroid Hormone (PTH), Serum**

**Specimen Requirements:** Patient Preparation: 1. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. 2. Fasting (12 hours) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Frozen (preferred) 180 days

Refrigerated 48 hours

CPT Code Information: 83970

**PTHFN**

61526

**Parathyroid Hormone, Fine-Needle Aspiration Biopsy (FNAB)-Needle Wash**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 1 to 1.5 mL Collection Instructions: 1. Needle wash specimens for analysis should be collected in conjunction with cytology specimens. 2. Have saline available prior to start of procedure. Saline is the only acceptable solution for needle washings. 3. After each fine-needle aspiration biopsy (FNAB) has been collected and the material in the needle has been expelled onto a slide for cytologic analysis, attach the used FNAB needle to an empty syringe. 4. Withdraw between 0.10 mL and 0.25 mL of saline up through the needle until the saline starts to fill the hub of the needle or end of the syringe. 5. Expel this fluid back through the needle into a separate plastic aliquot tube. This is the needle washing used for analysis. 6. Repeat steps 2 through 4 for each needle pass of the same biopsied site and empty into the same tube, accumulating a total of 0.5 mL to 1.5 mL of fluid to send to the laboratory. (If more than 1 site is biopsied, see Additional Information) 7. Inspect specimen for visible blood or tissue
contamination:  -a. If bloody, centrifuge specimen and transfer supernatant to a new plastic aliquot tube (5-mL standard tube) to send to laboratory. The supernatant, not the cellular material, is used for analysis.

-b. If specimen is clear, centrifugation is not necessary. 8. Refrigerate within 1 to 2 hours of collection and freeze within 2 to 4 hours of collection. Additional Information: 1. If more than 1 site is biopsied, each washing material should be submitted on a separate tube and under a different order number. 2. A minimum of 0.5 mL is required for testing; however, the total collection volume should not exceed 1.5 mL. Sample volumes outside these parameters may be rejected. 3. Do not send saline control. This test has been validated to rule-out saline matrix effect.

**Specimen Minimum Volume:** 1 to 1.5 mL

**Transport Temperature:**
Fine Needle Wash  Frozen (preferred)  30 days
Refrigerated       4 hours

**CPT Code Information:** 83970

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**PTHRP**  
Parathyroid Hormone-Related Peptide (PTHrP), Plasma

**Specimen Requirements:**  
Patient Preparation: None required  
Collection Container/Tube: Ice-cooled, lavender top (EDTA) Submission Container/Tube: Plastic vial  
Specimen Volume: 0.7 mL  
Collection Instructions: Spin specimen down in a refrigerated centrifuge or in chilled centrifuge cups.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Plasma EDTA Frozen 90 days

**CPT Code Information:** 82397

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**PPAP**  
Parental Sample Prep for Prenatal Microarray Testing

**Specimen Requirements:**  
This test requires 2 blood specimens: 1 sodium heparin and 1 EDTA.  
Specimen Type: Whole blood Container/Tube: Green top (sodium heparin) and lavender top (EDTA)  
Specimen Volume: EDTA: 3 mL Sodium heparin: 4 mL  
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimens in original tubes.

**Transport Temperature:**
Whole blood  Ambient (preferred)  
Refrigerated

**CPT Code Information:** This test code contains no charge and serves as a way to correlate probund parental specimens. If additional testing is warranted, the appropriate tests will be added.

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**PCAB**  
Parietal Cell Antibodies, IgG, Serum

**Specimen Requirements:**  
Container/Tube: Preferred: Serum gel Acceptable: Red top  
Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.45 mL

**Transport Temperature:**
Parietaria judaica, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 83516

Parietaria officinalis, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

Paroxetine, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.5 mL Collection Instructions: Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

CPT Code Information: 80299
**Parrot Australian (Budgerigar) Feathers IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**Parsley IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**Parsley, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Particle Prep (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**CPT Code Information:** 88305
Parvovirus B19 Antibodies, IgG and IgM, Serum

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top Submission
- Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86747 x 2

Parvovirus B19 Antibodies, IgG, Serum

**Specimen Requirements:**
- Only orderable as part of a profile. For more information see PARVS / Parvovirus B19 Antibodies, IgG and IgM, Serum.
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top Submission
- Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86747

Parvovirus B19 Antibody Interpretation

**Specimen Requirements:**
- Only orderable as part of a profile. For more information see PARVS / Parvovirus B19 Antibodies, IgG and IgM, Serum.

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

Parvovirus B19 Antibody, IgM, Serum

**Specimen Requirements:**
- Only orderable as part of a profile. For more information see PARVS / Parvovirus B19 Antibodies, IgG and IgM, Serum.
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top Submission
- Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86747
Parvovirus B19, Molecular Detection, PCR

**Specimen Requirements:** Specimen source is required. Submit only 1 of the following specimens: Preferred: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 0.5 mL 
Collection Instructions: 1. Do not centrifuge. 2. Label specimen as amniotic fluid. Specimen Stability Information: Refrigerated (preferred) 7 days/Frozen 7 days Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 0.5 mL 
Collection Instructions: 1. Do not centrifuge. 2. Label specimen as spinal fluid. Specimen Stability Information: Refrigerated (preferred) 7 days/Frozen 7 days Specimen Type: Synovial fluid Container/Tube: Sterile vial or lavender top (EDTA) Specimen Volume: 0.5 mL 
Collection Instructions: Label specimen as synovial fluid. Specimen Stability Information: Refrigerated (preferred) 7 days/Frozen 7 days Alternate: Specimen Type: Bone marrow Container/Tube: Sterile container or lavender top (EDTA) Specimen Volume: 0.5 mL 
Collection Instructions: Label specimen as bone marrow. Specimen Stability Information: Refrigerated 7 days

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

Parvovirus B19, Molecular Detection, PCR, Plasma

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Aliquot Tube, 5 mL (T465) Specimen Volume: 0.5 mL 
Collection Instructions: Spin down and submit plasma in aliquot tube.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Plasma EDTA Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

Parvovirus Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**Passion Fruit, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL} \text{ dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Pathology Consultation**

**Specimen Requirements:** Specimens needed to provide a complete Hematopathology consultation: 1. Recent peripheral blood smear with CBC report 2. Bone marrow biopsy/clot (block and stained slides) 3. Bone marrow aspirate (stained and unstained slides) 4. All pending and final reports for ancillary testing on above specimens Supplies: Pathology Packaging Kit (T554) Specimen Type: Slides Slides: Submit hematoxylin and eosin (H and E) and all special stains performed on the case. Include unstained slides and/or a formalin-fixed, paraffin-embedded tissue block if it is anticipated that additional stains or ancillary testing may be necessary. Unstained slides for immunohistochemistry should be charged, if possible, as not all immunohistochemical stains can be performed on uncharged slides. Additional Information: 1. A brief explanatory note or consultative letter is also recommended. 2. This test is not intended for use with wet tissue (tissue that still needs to be processed). 3. If electron microscopy (EM) has been performed, include EM images (either on a CD or as prints).

**Transport Temperature:**
- MMLDRY Ambient

**CPT Code Information:** 88321-Consultation and report on referred slides prepared elsewhere (if appropriate); 88323-Consultation and report on referred material requiring preparation of slides (if appropriate); 88325-Consultation, comprehensive, with review of records and specimens, with report on referred material (if appropriate);

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**PAX-5 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
PAX8 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

PCA3 (Prostate Cancer Antigen 3)

Specimen Requirements: Urine Collect specimen using PROGENSA Urine Specimen Transport Tube (T695) as follows: Perform an attentive digital rectal exam (DRE) immediately prior to specimen collection (specimen should be collected within approximately 1 hour of DRE). Patient should collect the first 20-30 mL voided urine following the DRE. Process specimen within 4 hours of collection (if specimen cannot be processed within 15 minutes, store refrigerated or on ice and process within 4 hours) Invert specimen cup 5 times to re-suspend cells Add 2.5 mL of urine to each of the two GEN-PROBE PROGENSA PSA3 Urine Specimen Transport Tubes. (Do NOT puncture the foil seal on the cape of the transport tube. The specimen must fall between the two black fill lines on the transport tube. Tightly re-cap each urine transport tube and gently invert 5 times to mix; do not shake or vortex. Send both GEN_PROBE PROGENSA transport tubes frozen.

Specimen Minimum Volume: 5 mL

Transport Temperature:
Urine Frozen (preferred) 90 days
Refrigerated 5 days
Ambient 24 hours

CPT Code Information: 81313

PDGFB (22q13), Dermatofibrosarcoma Protuberans/Giant Cell Fibroblastoma, FISH, Tissue

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Collection Instructions: Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used Acceptable: Slides Specimen Volume: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

Specimen Minimum Volume: Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

Transport Temperature:
Tissue Ambient
(preferred)
Refrigerated
CPT Code Information: 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

PDG12 Exon 12, Mutation Analysis

Specimen Requirements: A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Bone marrow aspirate (in EDTA) and specimens that have been decalcified are not appropriate specimens for this test. If these are received, testing will be canceled. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor population; slides may be stained and/or scraped. Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

Transport Temperature:
Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: 81314-PDGFR (platelet-derived growth factor receptor alpha polypeptide) (eg, gastrointestinal stromal tumor [GIST]), gene analysis, targeted sequence analysis (eg, exons 12, 18); 88381-Microdissection, manual;

PDG14 Exon 14, Mutation Analysis

Specimen Requirements: A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor population; slides may be stained and/or scraped. Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

Transport Temperature:
Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: 81314-PDGFR (platelet-derived growth factor receptor alpha polypeptide) (eg, gastrointestinal stromal tumor [GIST]), gene analysis, targeted sequence analysis (eg, exons 12, 18); 88381-Microdissection, manual;
PDGFRA Exon 18, Mutation Analysis

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue block with a minimum of 60% tumor cell population Collection Instructions: Process all specimens into FFPE tissue blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 60% tumor cell population; slides may be stained and/or scraped Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**

- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81314-PDGFRB (Platelet-derived growth factor receptor alpha polypeptide) (eg, gastrointestinal stromal tumor [GIST]), gene analysis, targeted sequence analysis (eg, exons 12, 18); 88381-Microdissection, manual;

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PDGFRB/TEL Translocation (5;12) for Chronic Myelomonocytic Leukemia (CMML), FISH

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL / Bone Marrow: 1 mL

**Transport Temperature:**

- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); ;

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Pea Black-Eyed/Cow Pea (Vigna sinensis) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

### FPGNG 57654

**Pea Green IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

### FPEAC 57666

**Peach IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

### PECH 82816

**Peach, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
FPNTG 57537

**Peanut IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
  - Frozen: 365 days
  - Ambient: 7 days

**CPT Code Information:** 86003

FPNG4 57571

**Peanut IgG4**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
  - Frozen: 365 days
  - Ambient: 7 days

**CPT Code Information:** 86001

PEAN 82888

**Peanut, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
  - Frozen: 90 days

**CPT Code Information:** 86003

PEANT 64756

**Peanut, IgE with Reflex to Peanut Components, IgE, Serum**
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days

Frozen 90 days

CPT Code Information: 86003

FPEAR
57683

Pear IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 7 days

CPT Code Information: 86001

PEAR
82807

Pear, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days

Frozen 90 days

CPT Code Information: 86003

FPCFG
57688

Pecan Food IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days

Frozen 365 days
PCANH

**Pecan Hickory, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86001

PEC

**Pecan-Food, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

PAS38

**Pediatric Allergy Screen 3 to 8 Years, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.8 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003 x 6

PAS3

**Pediatric Allergy Screen**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
**PAS8 83347**

**Pediatric Allergy Screen >8 Years, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003 x 5

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**PBPO 82660**

**Penicillin G, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**PENIV 82656**

**Penicillin V, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
CPT Code Information: 86003

**Penicillium chrysogenum, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**Pentobarbital, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

CPT Code Information: 80345; G0480 (if appropriate);

**Pepper Bell/Paprika IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

CPT Code Information: 86001

**Pepper Black IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
  Frozen 365 days
  Ambient 7 days

CPT Code Information: 86001

**FPCYE 57538** Pepper Cayenne (Capsicum frutescens) IgE

Specimen Requirements: Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
  Frozen 365 days
  Ambient 28 days

CPT Code Information: 86003

**FPCHI 57664** Pepper Chili IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
  Frozen 365 days
  Ambient 7 days

CPT Code Information: 86001

**FPEPA 57838** Pepsin A Assay

Specimen Requirements: Specimen Type: Tracheal or Bronch Fluid Sources: Tracheal or Bronch Fluid Container/Tube: Standard Transport Tube Specimen Volume: 1 mL Collection Instructions: 1 mL Tracheal or Bronch Fluid shipped frozen.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Body Fluid Frozen 30 days

CPT Code Information: 83516, 83986, 84157
**FPEPS 91638**

**Pepsinogen I**

**Specimen Requirements:** Submit only 1 of the following Serum Draw blood in a plain, red-top tube or serum gel tube(s). Separate immediately and send 3 mL of serum frozen in a plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Plasma Draw blood in a lavender-top (EDTA) tube(s). Separate immediately and send 3 mL of EDTA plasma frozen in a plastic vial. Note: 1. Indicate plasma on request form. 2. Label specimen appropriately (plasma). Patient preparation: Patient should be fasting 10-12 hours prior to collection of specimen. Antacids or other medications affecting stomach acidity or gastrointestinal motility should be discontinued, if possible, for at least 48 hours prior to collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Varies Frozen 365 days

**CPT Code Information:** 83519

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**FPERA 75223**

**Perampanel, Serum**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL of serum refrigerate in a preservative-free plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**

Serum Red Refrigerated (preferred) 30 days

Ambient 30 days

Frozen

**CPT Code Information:** 80339

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**FOPE 57938**

**Perch Ocean**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 28 days

**CPT Code Information:** 86003

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**FPERC 91631**

**Percocet, Urine**

**Specimen Requirements:** Collect 20 mL random urine without preservatives. Ship refrigerated
in a plastic container.

**Specimen Minimum Volume:** 10 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
  - Frozen 365 days
  - Ambient 72 hours

**CPT Code Information:** 80307; 80365

**PBPC**

Peripheral Blood (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient
  - (preferred)
  - Refrigerated

**SMPB**

Peripheral Blood Smear Review

**Transport Temperature:**
- Whole Blood Slide Refrigerated

**CPT Code Information:** 85060

**PBTC**

Peripheral Blood, TC (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient
  - (preferred)
  - Refrigerated

**CPT Code Information:** 85007

**PNBX**

Peripheral Nerve Pathology Consultation

**Specimen Requirements:** Supplies: Nerve Biopsy Specimen Prep Instruction (T580) Specimen Type: Nerve biopsy tissue, slides, or block Collection Instructions: Prepare and transport specimen per instructions in Nerve Biopsy Specimen Preparation Instruction (T580) in Special Instructions. A Nerve Biopsy Kit (call 507-284-8065 to order) containing fixatives and buffer is available for an additional fee.

**Transport Temperature:**
- Varies Refrigerated
  - (preferred)
PNPAN 64358
Peripheral Neuropathy Expanded Panel by Next-Generation Sequencing (NGS)

Specimen Requirements:
Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood
Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant
Specimen Volume: 3 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.
Additional Information: 1. To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate. 2. Prior Authorization is available for this test. Submit the required form with the specimen.

Specimen Minimum Volume: 3 mL
Transport Temperature:
Varies Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 81448

PINTP 71114
Peripheral Smear Interpretation

Specimen Requirements: Only orderable as a reflex. For more information see SPSM / Morphology Evaluation (Special Smear). Container/Tube: Slides
Specimen Volume: 5 Unstained, well-made peripheral blood smears (fingerstick blood)
Collection Instructions: If peripheral blood smears (fingerstick blood) is not available, a smear from EDTA blood will be accepted. Additional Information: Include complete blood count results (if available) and reason for referral.

Transport Temperature:
Whole Blood EDTA Ambient (preferred)
Refrigerated

CPT Code Information: 85060

TP63F 35849
Peripheral T-Cell Lymphoma (PTCL), TP63 (3q28) Rearrangement, FISH, Tissue

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Lymph node
Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides
Collection Instructions: Four consecutive, unstained, 5
micron-thick sections placed on positively charged slides, and include 1 hematoxylin and eosin-stained slide. Specimen Type: Solid tumor Preferred: Tissue block Collection Instructions: Submit a FFPE-tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides. Include 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides. Include 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**ACASM 83632**

**Pernicious Anemia Cascade**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 4 mL Collection Instructions: 1. Fasting (8 hours) 2. Divide specimen into 3 plastic vials, 1 containing 1 mL, 1 containing 1.5 mL, and 1 containing 1.5 mL 3. Band specimens together. Additional Information: This test should not be ordered on patients who have received vitamin B12 injection within the last 2 weeks.

**Specimen Minimum Volume:** 2.3 mL

**Transport Temperature:**

- Serum Frozen 14 days

**CPT Code Information:** 82607-Vitamin B12 assay; 82941-Gastrin (if appropriate); 83921-MMA (if appropriate); 86340-IFBA (if appropriate);

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**PDP 64914**

**Peroxisomal Disorder Panel by Next-Generation Sequencing**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Prenatal Specimens Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable Specimen Type: Confluent cultured cells Container/Tube:
T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Card-Blood Spot Collection Filter paper (T493) Specimen Volume: 3 to 5 Blood Spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions. Specimen Minimum Volume: Blood: 1 mL Blood Spots: 3, 3-mm diameter Amniotic Fluid: 10 mL Chorionic Villi: 5 mg Transport Temperature: Varies Ambient (preferred) Frozen Refrigerated CPT Code Information: 81405; 81479; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); Maternal Cell Contamination, B; 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate); PNZN 9789 Perphenazine, (Trilafon), Serum Specimen Requirements: Submit only 1 of the following specimens Plasma Draw blood in a green-top (sodium heparin) tube(s). Plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in amber vial (T192) to protect from light. Serum Draw blood in a plain, red-top tube(s). Serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in amber vial (T192) to protect from light. Specimen Minimum Volume: 0.3 mL Transport Temperature: Varies Refrigerated (preferred) 7 days Frozen 180 days Ambient 72 hours CPT Code Information: 80342
Persimmon, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature: Serum Refrigerated (preferred) 14 days
Frozen 90 days
CPT Code Information: 86003

pH, 24 Hour, Urine
Specimen Requirements: Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. No preservative. 3. Refrigerate specimen within 4 hours of completion of 24-hour collection. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.
Specimen Minimum Volume: 1 mL
Transport Temperature: Urine Refrigerated (preferred) 7 days
Frozen 7 days
CPT Code Information: 83986

pH, Body Fluid
Specimen Requirements: Container/Tube: Metal-free container (T173) Specimen Volume: 5 mL Additional Information: Indicate specimen source.
Specimen Minimum Volume: 1 mL
Transport Temperature: Body Fluid Refrigerated (preferred) 7 days
Frozen 7 days
CPT Code Information: 83986

pH, Fecal
Specimen Requirements: - 5 g of liquid, random stool. Ship frozen. - Separate specimens must be submitted when multiple tests are ordered.
Specimen Minimum Volume: 1 g
Transport Temperature: Fecal Frozen 7 days
CPT Code Information: 83986

PHU_ 9312

pH, Urine

Specimen Requirements: Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 10 mL Collections Instructions: Collect a random urine specimen.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 7 days
Frozen 7 days

CPT Code Information: 83986

FPHAS 57580

Phadiatop (Allergy Screen)

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86005

PHAGP 65665

Phagocytic Primary Immunodeficiency (PID) Gene Panel

Specimen Requirements: Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card-Blood Spot Collection Filter Paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Whatman FTA Classic paper, Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient <1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal
essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch

Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information:

Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Whole blood: 1 mL

**Transport Temperature:**

Varies

**CPT Code Information:** 81479

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**Phencyclidine (PCP) Confirmation, Chain of Custody, Meconium**

**Specimen Requirements:** Container/Tube: Chain-of-Custody Meconium Kit (T653) includes the specimen containers, seals, and documentation required Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen. Additional Information: 1. Specimen that arrives with a broken seal does not meet the chain of custody requirements. 2. The laboratory recommends sending chain-of-custody specimens by overnight shipment.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)

**Transport Temperature:**

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**CPT Code Information:** 83992; G0480 (if appropriate);

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**Phencyclidine (PCP) Confirmation, Meconium**

**Specimen Requirements:** Supplies: Stool container. Small (Random), 4 oz (T288) Container/Tube: Stool container (T288) Specimen Volume: 1 g (approximately 1 teaspoon) Collection Instructions: Collect entire random meconium specimen.

**Specimen Minimum Volume:** 0.3 g (approximately 1/4 teaspoon)

**Transport Temperature:**

<table>
<thead>
<tr>
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<th>28 days</th>
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</thead>
<tbody>
<tr>
<td>Meconium</td>
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</table>

**CPT Code Information:** 83992; G0480 (if appropriate); ;
Phencyclidine (PCP), Confirmation, serum

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial. Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
- Frozen 180 days

**CPT Code Information:** 83992

Phencyclidine Confirmation, Chain of Custody, Urine

**Specimen Requirements:** Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required. Specimen Volume: 20 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain-of-custody testing. Additional Information: Submitting <20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 83992; G0480 (if appropriate);

Phencyclidine Confirmation, Urine

**Specimen Requirements:** Supplies: Plastic, 60-mL urine container (T313) Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: 1. No specimen substitutions. 2. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order PCPX / Phencyclidine Confirmation, Chain of Custody, Urine. 3. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700. 4. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine. 5. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 72 hours

**CPT Code Information:** 83992; G0480 (if appropriate);
### Phenobarbital, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 80184

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### Phenosense Combination HIV Drug Resistance Assay

**Specimen Requirements:** Draw blood into two 5 mL PPT (pearl top) or EDTA (lavender top) tube(s). Immediately centrifuge (within 2 hours of collection) at 1000-1200 x g at room temperature for 10-15 minutes. Do not allow samples to remain in centrifuge after centrifugation. Remove plasma from cells immediately and transfer to a plastic screw cap tube. Freeze immediately. Send 3 mL plasma in a screw-cap vial frozen. RECOMMENDED: 1. Patient's most recent viral load. 2. Viral load collection date. NOTE: 1. Intended for use only for patients with viral loads greater than or equal to 500 copies/mL. For best results, viral loads should be confirmed within 2 weeks prior to submission for testing at Monogram. 2. Patient samples submitted <30 days apart are considered duplicate and will be cancelled.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Plasma EDTA Frozen

**CPT Code Information:** 87900/Infectious agent drug susceptibility phenotype prediction; 87901/Infectious agent genotype analysis by nucleic acid; reverse transcriptase and protease; 87903/Infectious agent phenotype analysis by nucleic acid with drug resistance tissue culture analysis; first through 10 drugs tested; 87904/x11 Each additional drug tested ;

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### Phenosense Entry HIV Drug Resistance Assay

**Specimen Requirements:** Draw blood into two 5-mL PPT (pearl top) or EDTA (lavender top) tube. Immediately centrifuge (within 2 hours of collection) at 1000-1200xg at room temperature for 10-15 minutes. Do not allow samples to remain in centrifuge after centrifugation. Remove plasma from cells immediately and transfer to a plastic screw-cap tube. Freeze immediately. Send 3 mL plasma in a screw-cap vial frozen. RECOMMENDED: 1. Patient's most recent viral load 2. Viral load collection date NOTE: 1. Intended for use only for patients with viral loads greater than or equal to 500 copies/mL. For best results, viral loads should be confirmed within two weeks prior to submission for testing at Monogram. 2. Patient samples submitted <30 days apart are considered duplicate and will be canceled.

**Specimen Minimum Volume:** 1.0 mL

**Transport Temperature:**
- Plasma EDTA Frozen
CPT Code Information: 87903

FPHIV
91756

Phenosense HIV Drug Resistance Replication Capacity

**Specimen Requirements:** Draw blood into two 5 mL PPT (pearl top) or EDTA (lavender top) tube(s). Immediately centrifuge (within 2 hours of collection) at 1000-1200 x g at room temperature for 10-15 minutes. Do not allow samples to remain in centrifuge after centrifugation. Remove plasma from cells immediately and transfer to a plastic screw cap tube. Freeze immediately. Send 3 mL plasma in a screw-cap vial frozen. RECOMMENDED: Patient's most recent viral load Viral load collection date

**NOTE:** 1. Intended for use only for patients with viral loads greater than or equal to 500 copies/mL. For best results, viral loads should be confirmed within two weeks prior to submission for testing at Monogram. 2. Patient samples submitted <30 days apart are considered duplicate and will be canceled.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Plasma EDTA Frozen

CPT Code Information: 87903; 87904/x11 ;

PKUBS
65593

Phenylalanine and Tyrosine, Blood Spot

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493) Preferred: Blood Spot Collection Card (T493) Acceptable: Whatman Protein Saver 903 Paper, Ahlstrom 226 filter paper Specimen Volume: 2 Blood spots Collection Instructions: 1. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours. 2. At least 2 spots should be complete, ie, unpunched. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. Dried blood spots collected with EDTA, sodium heparin, lithium heparin, or ACD containing devices are acceptable. 2. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 3. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood Spots: 1

**Transport Temperature:**
Whole blood Ambient (preferred) 21 days
Frozen 10 days
Refrigerated 10 days

CPT Code Information: Phenylalanine-84030; Tyrosine-84510;

PKU
8380

Phenylalanine and Tyrosine, Plasma

**Specimen Requirements:** Patient Preparation: Fasting (4 hours or more in infants) Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
Plasma Frozen (preferred) 14 days
CPT Code Information: 84030-Phenylalanine; 84510-Tyrosine;

**Phenytoin, Free, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
- Frozen 14 days
- Ambient 7 days

CPT Code Information: 80186

**Phenytoin, Total and Free, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 2 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
- Frozen 14 days
- Ambient 7 days

CPT Code Information: Phenytoin, total-80185; Phenytoin, free-80186;

**Phenytoin, Total and Phenobarbital Group, Serum**

**Specimen Requirements:** One serum specimen (0.5 mL of serum) may be sent if using a red top tube. Serum for Phenytoin: Container/Tube: Red top Specimen Volume: 0.5 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Serum for Phenobarbital: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL for 2 specimens; 0.25 mL for 1 serum red top

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours
- Serum Red Refrigerated (preferred) 7 days
- Frozen 14 days
PNYA 37048

**Phenytoin, Total, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.5 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 7 days
- Frozen: 14 days
- Ambient: 7 days

**CPT Code Information:** 80185

PHMA 82736

**Phoma betae, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

FPGA 58042

**Phosphatidylglycerol Antibodies, IgG, IgM and IgA**

**Specimen Requirements:** Draw blood in a serum gel tube(s). Send 1 mL serum refrigerate.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum SST: Refrigerated (preferred) 14 days
- Frozen: 365 days

**CPT Code Information:** 83516 X 3

FPHAB 57371

**Phosphatidylinositol Antibodies, IgG, IgM and IgA**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). Serum gel tube is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.3 mL

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 48 hours

CPT Code Information: 83516 x3

Phosphatidylserine/Prothrombin Antibody, IgG and IgM, Serum

PSPT 64704

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.5 mL

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 86148 x 2

Phosphatidylserine/Prothrombin Antibody, IgG, Serum

PSPTG 62578

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.5 mL

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 86148

Phosphatidylserine/Prothrombin Antibody, IgM, Serum

PSPTM 62579

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.5 mL

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 86148
**Phospholipase A2 Receptor (PLA2R) Frozen IF, Renal**

**Specimen Requirements:**
- Supplies: Renal Biopsy Kit (T231)
- Specimen Type: Kidney tissue
- Container/Tube: Renal Biopsy Kit (T231), Zeus/Michel’s, Frozen
- Preferred: Frozen
- Acceptable: 2 frozen tissue unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick.
- Specimen Volume: Entire specimen
- Collection Instructions: Collect specimens according to the instructions in Renal Biopsy-Procedures of Handling Tissue for Light Microscopy, Immunohistology, and Electron Microscopy in Special Instructions.
- Additional Information: If standard immunoglobulin and complement immunofluorescence has already been performed, submit the residual frozen tissue (must contain glomeruli) on dry ice.

**Transport Temperature:**
- Special Frozen (preferred)
- Ambient
- Refrigerated

**CPT Code Information:**
- 88346-primary IF;

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**Phospholipase A2 Receptor Antibodies, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Serum gel
- Specimen Volume: 1 mL

**Specimen Minimum Volume:**
- 0.5 mL

**Transport Temperature:**
- Serum SST Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 8 hours

**CPT Code Information:**
- EURO-86256; SCOPE-86255;

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**Phospholipase A2 Receptor, Enzyme Linked Immunosorbent Assay, Serum**

**Specimen Requirements:**
- Only orderable as part of a profile. For more information see PLA2R / Phospholipase A2 Receptor Antibodies, Serum.

**Specimen Minimum Volume:**
- 0.5 mL

**Transport Temperature:**
- Serum SST Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 8 hours

**CPT Code Information:**
- 86256

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**Phospholipase A2 Receptor, Indirect Immunofluorescence Assay, Serum**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Only orderable as part of a profile. For more information see PLA2R / Phospholipase A2 Receptor Antibodies, Serum.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum SST Refrigerated (preferred) 14 days

Frozen 14 days

Ambient 8 hours

**CPT Code Information:** 86255

**ACLIP**

**Phospholipid (Cardiolipin) Antibodies, IgA, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86179

**CLPMG**

**Phospholipid (Cardiolipin) Antibodies, IgG and IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86147 x 2

**GCLIP**

**Phospholipid (Cardiolipin) Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86147
**MCLIP 81900**

**Phospholipid (Cardiolipin) Antibodies, IgM, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86147

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**PPL 8296**

**Phospholipids, Serum**

**Specimen Requirements:**
- Patient Preparation: 1. Fasting-overnight (12-14 hours) 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn.
- Collection Container/Tube:
  - Preferred: Red top
  - Acceptable: Serum gel

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen

**CPT Code Information:** 84311

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**PMMIL 89656**

**Phosphomannomutase (PMM) and Phosphomannose Isomerase (PMI), Leukocytes**

**Specimen Requirements:**
- Container/Tube: Preferred: Yellow top (ACD solution B)
- Acceptable: Yellow top (ACD solution A)
- Specimen Volume: 6 mL

**Collection Instructions:** Do not transfer blood to other containers.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Whole Blood ACD Refrigerated 48 hours

**CPT Code Information:** 82657

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**PHOS 8408**

**Phosphorus (Inorganic), Serum**

**Specimen Requirements:**
- Patient Preparation: Patient should fast overnight (12-14 hours)
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.5 mL

**Collection Instructions:** 1. Serum gel tubes should be centrifuged within 2 hours of collection.
2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL
Transport Temperature:
Serum Frozen (preferred)  365 days
Refrigerated  7 days

CPT Code Information: 84100

POU 8526

Phosphorus, 24 Hour, Urine
Specimen Requirements: Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.
Specimen Minimum Volume: 1 mL
Transport Temperature:
Urine Refrigerated (preferred)  14 days
Frozen  14 days
Ambient  7 days

CPT Code Information: 84105

PHBF 8029

Phosphorus, Body Fluid
Specimen Requirements: Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material. Additional Information: Indicate specimen source.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Body Fluid  Refrigerated (preferred)  7 days
Frozen  365 days

CPT Code Information: 84100

RPOU 84007

Phosphorus, Pediatric, Random, Urine
Specimen Requirements: Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: A timed 24-hour urine collection is the preferred specimen for measuring and interpreting this urinary analyte. Random collections normalized to urinary creatinine may be of some clinical use in patients who cannot collect a 24-hour specimen, typically small children. Therefore, this random test is offered for children <16 years old.
Specimen Minimum Volume: 1 mL
Transport Temperature:
Urine Refrigerated (preferred)  14 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**PHTDP**

**Phosphorylated TDP43 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 84105

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**PAHD**

**Phthalic Anhydride, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**TPSPC**

**Physician Interp Screen**

**Specimen Requirements:** This is not an orderable test.

**Transport Temperature:**
Varies Ambient (preferred)
Refrigerated

**CPT Code Information:** 88141

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**CVSPC**

**Physician Interpretation Conventional**

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<table>
<thead>
<tr>
<th>Test Code</th>
<th>Description</th>
<th>Specimen Requirements</th>
<th>Transport Temperature</th>
<th>CPT Code Information</th>
</tr>
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<tbody>
<tr>
<td>TPDPC 72129</td>
<td>Physician Interpretation, Diagnostic</td>
<td>This is not an orderable test.</td>
<td>Varies Ambient (preferred) Refrigerated</td>
<td>88141</td>
</tr>
<tr>
<td>PIGE 82781</td>
<td>Pig Epithelium, IgE</td>
<td>Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.</td>
<td>Serum Refrigerated (preferred) 14 days Frozen 90 days</td>
<td>86003</td>
</tr>
<tr>
<td>PIGF 82145</td>
<td>Pigeon Feathers, IgE</td>
<td>Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.</td>
<td>Serum Refrigerated (preferred) 14 days Frozen 90 days</td>
<td>86003</td>
</tr>
</tbody>
</table>
PIN2 (p63/p504S) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient
(preferred)
Refrigerated

CPT Code Information: 88344-TC

FPMLP Pine Mix (Lodgepole, Ponderosa) IgE

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

PINE Pine Nut, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

FPIAP Pineapple IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

PNAP 82815  Pineapple, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

PINW 9204  Pinworm Exam, Perianal
Specimen Requirements: Supplies: Swubes (T300) Specimen Type: Perianal Container/Tube: SWUBE disposable paddle (Falcon) (T300) or similar method of collection Specimen Volume: Entire specimen Collection Instructions: See Pinworm Collection Instructions in Special Instructions.
Specimen Minimum Volume: NA
Transport Temperature: Varies
Ambient (preferred) 7 days
Refrigerated 7 days

CPT Code Information: 87172

PIPA 81326  Pipecolic Acid, Serum
Specimen Requirements: Patient Preparation: Fasting 12 hours or more. (Draw infants and small children just before next feeding) Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: Spin down within 45 minutes of draw.
Specimen Minimum Volume: 1 mL
Transport Temperature:
Serum Frozen (preferred) 94 days
Refrigerated 14 days

CPT Code Information: 82542
**Pipecolic Acid, Urine**

**Specimen Requirements:** Supplies: Plastic, 10-mL urine tube (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Frozen (preferred) 94 days
- Refrigerated 14 days

**CPT Code Information:** 82542

**Pistachio, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**PIT-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Container/Tube: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope Preferred: 2 Unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** NA

**Transport Temperature:**
- TECHONLY Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**Pityrosporum orbiculare, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**PLAP 70539**

**Placental Alkaline Phosphatase (PLAP) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693)
Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**PLAI 82837**

**Plaice, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top
Acceptable: Serum gel
Specimen Volume: 0.5 mL for each 5 allergens requested
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**PBLI 9302**

**Plasma Cell Assessment, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA)
Specimen Volume: 10 mL

**Specimen Minimum Volume:** 4 mL

**Transport Temperature:**
- Whole blood Ambient (preferred) 72 hours
- Refrigerated 72 hours
**PCPRO 61654**

**Plasma Cell DNA Content and Proliferation, Bone Marrow**

**Specimen Requirements:** Specimen Type: Redirected bone marrow Preferred: Yellow top (ACD) Acceptable: EDTA or heparin Specimen Volume: 4 mL Specimen Stability Information: <72 hours

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**

Bone Marrow  Ambient  (preferred)

Refrigerated

**CPT Code Information:** 88182-Flow cytometry, cell cycle or DNA analysis; 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185 x 5-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each); 88187-Flow cytometry interpretation, 2 to 8 Markers (added as FCINT);

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**PCPDF 35292**

**Plasma Cell Proliferative Disorder (PCPD), FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Container/Tube: Green top (sodium heparin) Specimen Volume: 1-3 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. 3. Advise Express Mail or equivalent if not on courier service. Additional Information: Blood is acceptable (only if there are circulating plasma cells documented by Hematopathologic evaluation).

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Bone Marrow  Ambient  (preferred)

Refrigerated

**CPT Code Information:** 88271x2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271x2-DNA probe, each; each additional probe set (if appropriate); 88271x1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**PLASF 35293**

**Plasma Cell Proliferative Disorder, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: For each probe set ordered, 2
consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides. Include 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

- Tissue: Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271x2-DNA probe, each; each additional probe set (if appropriate); 88271x1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**PLHBB**

**Plasma Hemoglobin, Plasma**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 2 mL

Collection Instructions: 1. Spin down and transfer plasma to an aliquot tube within 2 hours of draw. 2. IMPORTANT-Results could be falsely elevated due to artifactual postdraw RBC lysis, if not spun down within 2 hours.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**

- Plasma EDTA Refrigerated (preferred) 7 days
- Frozen 7 days
- Ambient 4 days

**CPT Code Information:** 83051

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**PAI1**

**Plasminogen Activator Inhibitor Antigen, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**

- Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85415
Plasminogen Activator Inhibitor-1, 4G/5G Genotyping (PAI-1 Polymorphism)

**Specimen Requirements:** Specimen Type: Whole Blood Preferred: EDTA Acceptable: ACD (Yellow top) Specimen volume: 5 mL Collection Instructions: Draw 5 mL whole blood in a lavender top (EDTA) or yellow top (ACD) tube. Send refrigerated.

**Specimen Minimum Volume:** 1.00 mL

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 8 days
- Ambient 8 days

**CPT Code Information:** 81400

Plasminogen Activity, Plasma

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85420

Platelet Antibodies, Indirect (IgG, IgM, IgA)

**Specimen Requirements:** Draw blood in a serum gel tube(s), plain red top tube(s), is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated 21 days

**CPT Code Information:** 86022 x 3

Platelet Antibody Screen, Serum

**Specimen Requirements:** Patient Preparation: Do not collect within 72 hours of a platelet transfusion. Transfused platelets will interfere with this assay. Container/Tube: Red top Specimen Volume: 1.5 mL Collection Instructions: Serum should be separated from red cells prior to shipping.

**Specimen Minimum Volume:** 0.5 mL
Transport Temperature:
Serum Red  Frozen (preferred)  365 days
Refrigerated  48 hours

CPT Code Information: 86022

PNP 8866
Platelet Neutralization Procedure
Transport Temperature:
Plasma Na Cit  Frozen 14 days

PLAFL 64278
Platelet Surface Glycoprotein by Flow Cytometry, Blood
Specimen Requirements: Supplies: Ambient Mailer-Critical Specimens Only (T668) Collection Container/Tube: ACD solution (A or B) Specimen Volume: 6 mL Pediatric Volume: 1 mL Collection Instructions: Do not transfer blood to other containers.
Specimen Minimum Volume: Adult: 1 mL Pediatric 200 mcL
Transport Temperature:
Whole Blood ACD  Ambient 4 days

CPT Code Information: 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each) X5; 88187-Flow cytometry interpretation, 2 to 8 markers;

PTEM 63682
Platelet Transmission Electron Microscopic Study
Specimen Minimum Volume: 3 mL
Transport Temperature:
Whole Blood ACD  Ambient 72 hours

CPT Code Information: 85390; 88348;

PTSE 61749
Platinum, Serum
Specimen Requirements: Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1.
High concentrations of gadolinium and iodine are known to interfere with most metals tests. If gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen 30 days

**CPT Code Information:** 83018

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**PLAZO**

**Plazomicin, Plasma**

**Specimen Requirements:** Collection Container/Tube: Preferred: Lavender top (K2 EDTA) Acceptable: K3 EDTA, Na EDTA, Na Citrate, Na Heparin, Li Heparin Submission Container/Tube: Plastic vial Specimen Volume: 1.5 mL Collection Instructions: 1. Trough specimens are preferred for monitoring concentrations and should be drawn immediately before the next scheduled dose. 2. Spin down within 2 hours of draw. Plasma must be separated from cells within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80299

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**PLUM**

**Plum, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**PMLR**

**PML/RARA Quantitative, PCR**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in
original tube. 3. Label specimen as blood. Specimen Type: Bone marrow Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Refrigerated (preferred)  5 days

| Ambient | 72 hours |

**CPT Code Information:** 81315-PML/RARalpha (t(15;17)), (PML-RARA regulated adaptor molecule 1) (eg promyelocytic leukemia) translocation analysis; common breakpoints (eg, intron 3 and intron 6), qualitative or quantitative

### PMP22 Gene, Large Deletion and Duplication Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient (preferred)

| Frozen |
| Refrigerated |

**CPT Code Information:** 81324

### PMS2 Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Prior Authorization is available for this test. Submit the required form with the specimen.
Transport Temperature:  
Varies Ambient  
(preferred)  
Frozen  
Refrigerated

CPT Code Information: 81317-PMS2 (postmeiotic segregation increased 2 [S. cerevisiae]) (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) gene analysis; full sequence analysis;  
81319-PMS2 (postmeiotic segregation increased 2 [S. cerevisiae]) (eg, hereditary non-polyposis colorectal cancer, Lynch syndrome) gene analysis; duplication/deletion variants;

PMS2 Immunostain, Technical Component Only

Specimen Requirements: Specimen Type: Tissue Supplies: Immunostain Technical Only  
Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:  
TECHONLY Ambient  
(preferred)  
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

Pneumococcal Antibody Panel (12 Serotype)

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:  
Serum Refrigerated (preferred) 7 days  
Frozen 365 days  
Ambient 7 days

CPT Code Information: 86317 x 12

Pneumocystis jiroveci, Molecular Detection, PCR

Specimen Requirements: The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Pneumocystis species DNA is unlikely.

Submit only 1 of the following specimens: Preferred Specimen Type: Body fluid Sources: Pleural Container/Tube: Sterile container Specimen Volume: 1 mL  
Specimen Type: Respiratory Sources: Bronchoalveolar lavage, bronchial washing, tracheal secretions, or sputum Container/Tube: Sterile container Specimen Volume: 1 mL Specimen Type: Tissue Sources: Respiratory Container/Tube: Sterile container Specimen Volume: 5-10 mm Collection Instructions: 1.
Submit fresh tissue. 2. Keep tissue moist with sterile water or sterile saline

Acceptable Specimen Type: NALC/NaOH-digested respiratory specimens

Sources: Lavage fluid, bronchial washing, respiratory fluid, sputum, or tracheal secretion

Container/Tube: Sterile container

Volume: 2 mL

Collection Instructions: 1. Submit digested specimen treated with NALC/NaOH. 2. Clearly indicate on container and order form that specimen is a digested specimen.

**Specimen Minimum Volume:** 0.5 mL  

**Transport Temperature:**  
Varies Refrigerated (preferred) 7 days  
Frozen 7 days

**CPT Code Information:** 87798

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**Pneumocystis Smear**

**Specimen Requirements:** Specimen source is required. Submit only 1 of the following specimens:  
Preferred: Specimen Type: Bronchoalveolar lavage Container/Tube: Sterile container  
Specimen Volume: Minimum of 2 mL  
Specimen Type: Lung or open lung tissue Container/Tube: Sterile container  
Specimen Volume: Minimum of a rice size piece  
Collection Instructions: Tissue should be placed in small amount of sterile saline or sterile water. Alternate: Specimen Type: Bronchial washing, sputum, or tracheal secretion Container/Tube: Sterile container  
Specimen Volume: Minimum of 1 mL

**Specimen Minimum Volume:** Varies*  
Brochoalveolar lavage: 2mL/Sputum, bronchial washings, and tracheal secretions: 1 mL/Lung tissue and open lung biopsy: rice-sized piece of tissue

**Transport Temperature:**  
Varies Refrigerated (preferred) 7 days  
Ambient 7 days

**CPT Code Information:** 87206; 87176-Tissue processing (if appropriate); 87798

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**PNH, PI-Linked Antigen, Blood**

**Specimen Requirements:** Specimen must arrive within 72 hours of draw. Container/Tube:  
Preferred: 2.6-mL Yellow top (ACD)  
Acceptable: 7-mL ACD or lavender top (EDTA)  
Specimen Volume: 2.6 mL  
Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**  
Whole blood Ambient (preferred) 72 hours  
Refrigerated 72 hours

**CPT Code Information:** 88184-Flow cytometry, RBC x 1; 88184-Flow cytometry, WBC x 1; 88185-Flow cytometry, additional marker (each), RBC x 1; 88185-Flow cytometry, additional marker (each), WBC x 6; 88188-Flow Cytometry Interpretation, 9-15 Markers x 1; 88184-Flow cytometry, WBC x 1; 88184-Flow cytometry, RBC x 1; 88185-Flow cytometry, additional marker (each), RBC x 1; 88185-Flow cytometry, additional marker (each), WBC x 6; 88188-Flow Cytometry Interpretation, 9-15 Markers x 1; 88184-Flow cytometry, WBC x 1; 88184-Flow cytometry, RBC x 1; 88185-Flow cytometry, additional marker (each), RBC x 1; 88185-Flow cytometry, additional marker (each), WBC x 6; 88188-Flow Cytometry Interpretation, 9-15 Markers x 1;

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**Podoplanin (D2-D40) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)  
Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693)  
Preferred: 2 unstained
positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Poliovirus (Types 1, 3) Antibodies, Neutralization**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerate in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 30 days
Ambient 5 days

**CPT Code Information:** 86382 x 2 ;

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**Pollock White (Pollachius virens) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

**CPT Code Information:** 86003

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**Polycythemia Vera, JAK2 V617F with Reflex to JAK2 Exon 12-15, Sequencing for Erythrocytosis**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: EDTA (Lavender) or ACD-B (yellow top) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Type: Bone marrow aspirate Container/Tube: EDTA (Lavender) or ACD-B (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as bone marrow.

**Specimen Minimum Volume:** Blood/Bone marrow: 0.5 mL
Transport Temperature:
Varies Refrigerated (preferred) 5 days
Ambient 5 days

CPT Code Information: 81270 JAK2 V617; 0027U (if appropriate);

TALDO 61843 Polyols, Quantitative, Urine
Specimen Requirements: Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 2 mL
Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.
Specimen Minimum Volume: 1 mL
Transport Temperature:
Urine Refrigerated (preferred) 28 days
Frozen 28 days

CPT Code Information: 82542

FPOM 57918 Pomegranate (Punica granatum) IgE
Specimen Requirements: Draw blood in a plain red-top tube, serum gel is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

PD2T 65296 Pompe Disease Second-Tier Newborn Screening, Blood Spot
Specimen Requirements: Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Blood Spot Collection Card (T493) Acceptable: Ahlstrom 226 filter paper and Whatman Protein Saver 903 paper Specimen Volume: 3 blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.
Specimen Minimum Volume: Blood Spots: 1
Transport Temperature:
Whole blood Refrigerated (preferred) 56 days
Frozen 56 days
**Pompe Disease, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1740 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated 24 hours Specimen Type: Skin biopsy Supplies: Eagle's minimum essential medium with 1% penicillin and streptomycin (T115) tubes are available upon request. Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Whatman Protein Saver 903 Paper or Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches-3 mm diameter

**Transport Temperature:**
Varies Varies

**CPT Code Information:** 81406-GAA (glucosidase, alpha; acid) (eg, glycogen storage disease type II [Pompe disease]), full gene sequence; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

**Poplar White (Populus alba) IgE**

**Specimen Requirements:** Draw blood in a plain, red-top tube, serum gel tube are acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days

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<td>28 days</td>
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**CPT Code Information:** 86003
**POPSD 82632**

**Poppy Seed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**FPORG 57627**

**Pork IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube, serum gel tubes are acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**FPRK4 57564**

**Pork IgG4**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**PREGI 82691**

**Pork Neutral-Regular Insulin, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum, Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**PORK**

**Pork, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum, Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**PBALP**

**Porphobilinogen and Aminolevulinic Acid, Plasma**

**Specimen Requirements:** Patient Preparation: Patient should abstain from alcohol for at least 24 hours prior to specimen collection. Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Green top (heparin) Acceptable: Green top (lithium heparin), Lavender top (EDTA), Yellow top (ACD A or B) Submission Container/Tube: Amber vial (T192) Specimen Volume: 1 mL Collection Instructions: It is recommended that specimen collection occur during the acute phase. Porphobilinogen (PBG) and aminolevulinic acid (ALA) may be normal when the patient is not exhibiting symptoms.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Plasma, Frozen (preferred) 21 days
- Refrigerated 7 days

**CPT Code Information:** 82542-- Porphobilinogen, P; 82135-- Aminolevulinic Acid, P;

**PBGDW**

**Porphobilinogen Deaminase (PBGD), Washed Erythrocytes**

**Specimen Requirements:** All porphyrin tests on erythrocytes can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Lavender top (EDTA) or green top (lithium heparin) Submission Container/Tube: Plastic vial Specimen Volume: Washed erythrocyte suspension Collection Instructions: Collect and process whole blood specimen as follows: 1. Immediately place specimen on wet ice. 2. Transfer entire specimen to a 12-mL graduated centrifuge tube. 3. Centrifuge specimen for 10 minutes at 2,000 rpm. 4. Record volume of packed cells and the total volume of the specimen. 5.
Discard supernatant plasma. 6. Wash packed erythrocytes 2 times by resuspension of at least an equal amount of cold 0.9% saline, mix, and centrifuge for 5 minutes at 2,000 rpm, discarding supernatant after each washing. 7. Resuspend packed cells to the original total volume with 0.9% saline. Invert specimen gently to mix.

**Specimen Minimum Volume:** 1 mL of washed and resuspended erythrocytes

**Transport Temperature:**
Washed RBC  Frozen 14 days

**CPT Code Information:** 82657

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**PBGD**

**88925**

**Porphobilinogen Deaminase (PBGD), Whole Blood**

**Specimen Requirements:** All porphyrin tests on whole blood can be performed on 1 draw tube. Patient Preparation: Abstinence from alcohol for at least 24 hours prior to specimen collection is essential as ethanol induces porphobilinogen deaminase (PBGD) activity, which may lead to a false-normal result. Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Lavender top (EDTA) or green top (lithium heparin) Specimen Volume: Full tube Collection Instructions: 1. Patient should abstain from alcohol for 24 hours. 2. Immediately place specimen on wet ice.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole blood  Refrigerated 7 days

**CPT Code Information:** 82657

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**PBGU**

**82068**

**Porphobilinogen, Quantitative, Random, Urine**

**Specimen Requirements:** Supplies: Urine Container-Amber, 60 mL (T596) Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative necessary but pH must be >5.0. 3. Specimens should be frozen immediately following collection.

**Specimen Minimum Volume:** 15 mL

**Transport Temperature:**
Urine Frozen (preferred)  7 days
Refrigerated  7 days

**CPT Code Information:** 84110

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**PEWE**

**31893**

**Porphyrins Evaluation, Washed Erythrocytes**

**Specimen Requirements:** All porphyrin tests on erythrocytes can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Dark blue top (metal free heparin) or green top (lithium heparin) Submission Container/Tube: Plastic vial Specimen Volume: Washed erythrocyte suspension Collection Instructions: Collect and process whole blood specimen as follows: 1. Immediately place specimen on wet ice. 2. Transfer entire specimen to a 12-mL graduated centrifuge tube. 3. Centrifuge specimen for 10 minutes at 2,000 rpm. 4. Record volume of packed cells and the total volume of the specimen. 5. Discard supernatant plasma. 6. Wash packed erythrocytes 2 times by resuspension of at least an equal amount of cold 0.9% saline, mix, and centrifuge for 5 minutes at 2,000 rpm, discarding...
supernatant after each washing. 7. Resuspend packed cells to the original total volume with 0.9% saline. Invert specimen gently to mix. 8. Transfer to a plastic tube and freeze.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Washed RBC  Frozen (preferred)  14 days
Refrigerated  14 days

**CPT Code Information:** 84311-Spectrophotometry, analyte not elsewhere specified; 82542-Chromatography (if appropriate);

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**Porphyrrins Evaluation, Whole Blood**

**Specimen Requirements:** All porphyrin tests on whole blood can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Dark blue top (metal free heparin) or green top (lithium heparin) Specimen Volume: Full tube Collection Instructions: Immediately place specimen on wet ice.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole blood  Refrigerated  7 days

**CPT Code Information:** 84311-Spectrophotometry, analyte not elsewhere specified; 82542-Chromatography (if appropriate);

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**Porphyrrins, Feces**

**Specimen Requirements:** Container/Tube: Stool container (T291) Specimen Volume: Entire collection (48, 72, or 96 hour). 24-Hour collection is adequate if the collection volume is approximately 100 g. Collection Instructions: 1. Patient should be instructed to refrain from red meat and aspirin-containing medications for 3 days prior to, as well as during, specimen collection. Compliance should be indicated. 2. No barium, laxatives, or enemas may be used within 24 hours of starting the collection. Additional Information: 1. Length of collection period is required. 2. Specimens smaller than 100 g may not provide interpretable results. 3. Include a list of medications the patient is currently taking.

**Specimen Minimum Volume:** 10 g

**Transport Temperature:**
Fecal  Frozen (preferred)  14 days
Refrigerated  14 days

**CPT Code Information:** 84126

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**Porphyrrins, Quantitative, 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: Patient should abstain from alcohol for 24 hours prior to, as well as during, collection. Supplies: Amber, 60-mL urine bottle (T596) Sodium Carbonate, 5 gram (T272) Specimen Volume: 20-50 mL Collection Instructions: 1. Collect a 24-hour urine specimen. 2. Add 5 g of sodium carbonate (T272) as preservative at start of collection. This preservative is
intended to achieve a pH of >7. Do not substitute sodium bicarbonate for sodium carbonate. 3. The container should be refrigerated and protected from light as much as possible during collection. An aliquot should be frozen when collection is complete.

**Specimen Minimum Volume:** 15 mL

**Transport Temperature:**
Urine Frozen 7 days

**CPT Code Information:** 84110-Porphobilinogen, quantitative; 84120-Porphyrins, quantitation and fractionation;

### PQNRU
#### Porphyrins, Quantitative, Random, Urine

**Specimen Requirements:** Patient Preparation: Patient should abstain from alcohol for 24 hours prior to collection. Supplies: Urine Container - Amber, 60 mL (T596) Container/Tube: Amber, 60-mL urine bottle (T596) Specimen Volume: 20-50 mL Collection Instructions: Collect a random urine specimen.

**Specimen Minimum Volume:** 15 mL

**Transport Temperature:**
Urine Frozen 72 hours

**CPT Code Information:** 84110-Porphobilinogen, quantitative; 84120-Porphyrins, quantitation and fractionation;

### PTP
#### Porphyrins, Total, Plasma

**Specimen Requirements:** Patient Preparation: Patient should abstain from alcohol for at least 24 hours prior to specimen collection. Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Green top (heparin) Acceptable: Lavender top (EDTA) Submission Container/Tube: Amber vial (T192) Specimen Volume: 3 mL Collection Instructions: Centrifuge specimen and aliquot plasma into amber vial. Send plasma frozen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Plasma Frozen 14 days

**CPT Code Information:** 84311-Porphyrins, total; 82542-Porphyrins, fractionation (if appropriate);

### FPOS
#### Posaconazole

**Specimen Requirements:** Container/Tube: Agar slant or other appropriate media Specimen Volume: Organism in pure culture Complete and submit with specimen: 1. Fungus Testing Lab request form Collection Instructions: Organism must be in pure culture, actively growing. Place specimen in a large infectious container (T146) and label as an etiologic agent/infectious substance.

**Transport Temperature:**
Varies Ambient

**CPT Code Information:** 87188 - mould - MIC microdilution or agar dilution (if appropriate); 87186
- yeast - MIC microdilution or agar dilution (if appropriate);

**POSA**

**Posaconazole, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Red: Frozen (preferred) 14 days
- Refrigerated: 7 days

**CPT Code Information:** 80299

**POSV**

**Post Vasectomy Check, Semen**

**Specimen Requirements:** Specimen must arrive within 24 hours of collection. Send specimen Monday through Thursday only and not the day before a holiday. If holiday falls on a Saturday, holiday will be observed on the preceding Friday. Sunday holidays are observed on the following Monday. Specimen should be collected and packaged as close to shipping time as possible. Laboratory does not perform testing on weekends. Container/Tube: Semen Analysis Kit (T178) Specimen Volume: Total ejaculate Collection Instructions: Patient should have 2 to 7 days of sexual abstinence at the time of semen collection for accurate results. Additional Information: Include the following information: semen volume and number of days of sexual abstinence.

**Specimen Minimum Volume:** NA

**Transport Temperature:**
- Semen Ambient

**CPT Code Information:** 89321

**PMARP**

**Postmortem Arrhythmia Panel**

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Specimen Stability Information: Ambient Acceptable: Specimen Type: Blood spot Container/Tube: Whatman FTA Classic Card or Whatman Protein Saver 903 Card Specimen Volume: 4-5 blood spots Collection Instructions: 1. Completely fill at least 3 circles on the filter paper card (approximately 80 microliters of blood per circle) 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Tissue: See Specimen Required Blood Spots: 3

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated
**CPT Code Information:** 81479 ; 81403; 81404 x 2; 81406 x 3; 81407;

**PMCMP 65560**

**Postmortem Cardiomyopathy Panel**

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block
Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Specimen Stability Information: Ambient (preferred) Acceptable: Specimen Type: Blood spot Container/Tube: Whatman FTA Classic Card or Whatman Protein Saver 903 Card Specimen Volume: 3-5 blood spots Collection Instructions: 1. Completely fill at least 3 circles on the filter paper card. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Tissue: See Specimen Required Blood Spots: 3

**Transport Temperature:**
Varies Ambient
(preferred)

Frozen

Refrigerated

**CPT Code Information:** 81439

**PMMFR 65561**

**Postmortem Marfan and Related Panel**

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block
Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Specimen Stability Information: Ambient Acceptable: Specimen Type: Blood spot Container/Tube: Whatman FTA Classic Card or Whatman Protein Saver 903 Card Specimen Volume: 3-5 blood spots Collection Instructions: 1. Completely fill at least 3 circles on the filter paper card. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Tissue: See Specimen Required Blood Spots: 3

**Transport Temperature:**
Varies Ambient
(preferred)

Frozen

Refrigerated

**CPT Code Information:** 81410

**PMNSR 65562**

**Postmortem Noonan and Related Panel**

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block
Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Specimen Stability Information: Ambient Acceptable: Specimen Type: Blood spot Container/Tube: Whatman FTA Classic Card or Whatman Protein Saver 903 Card Specimen Volume: 3-5 blood spots Collection Instructions: 1. Completely fill at least 3 circles on the filter paper card. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4.
Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Tissue: See Specimen Required Blood Spots: 3

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81479; 81404; 81311; 81405 X2; 81406 X6;

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**Postmortem Screening, Bile and Blood Spots**

**Specimen Requirements:** Both bile and blood spots are required. Supplies: Card-Postmortem Screening (Filter Paper) (T525) Collection Container/Tube: Postmortem Screening Card (T525) Specimen Volume: Properly completed screening card Collection Instructions: 1. Collect blood in a heparin-containing tube and drop 25 mcL of blood onto each circle on 1 end of the special card. 2. Collect bile by direct puncture of the gallbladder and drop 25 mcL of bile onto each circle on the opposite end of the card. 3. Allow to dry at ambient temperature in a horizontal position for 3 or more hours. 4. Fill out information on page 2 of collection card. 5. Do not expose specimen to heat or direct sunlight. 6. Do not stack wet specimens. 7. Keep specimen dry.

**Specimen Minimum Volume:** Bile Spot: 1 and Blood Spot: 1

**Transport Temperature:**
- Whole blood Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 83789

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**Potassium, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 25 mL of 50% acetic acid as preservative at start of collection. Additional Information: 1. Specimen collected with toluene or urine collected with no preservative if kept refrigerated continuously is acceptable. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 7 days

**CPT Code Information:** 84133

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Current as of October 16, 2018 7:53 pm CDT   800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Potassium, Body Fluid

**Specimen Requirements:** Container/Tube: Sterile container
Specimen Volume: 1 mL
Collection Instructions: Centrifuge to remove any cellular material. Additional Information: Indicate specimen source.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Body Fluid Refrigerated 7 days

**CPT Code Information:** 84999 (See CPT Coding in Special Instructions)

Potassium, Random, Urine

**Specimen Requirements:** Supplies: Aliquot tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube
Specimen Volume: 4 mL
Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 84133

Potassium, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL
Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Refrigerated 48 hours

**CPT Code Information:** 84132

Potato White IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days
CPT Code Information: 86001

**FMPG**

**57931**

**Poultry and Meat Panel IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Serum Refrigerated (preferred): 28 days
- Frozen: 365 days
- Ambient: 7 days

CPT Code Information: 86001 x 7;

**PPOXZ**

**35530**

**PPOX Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 3

**Transport Temperature:**

Varies

CPT Code Information: PPOX Gene, Full Gene Analysis; 81406-PPOX; ; Fibroblast Culture for Genetic Testing; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

**PWAS**

**35535**

**Prader-Willi/Angelman Syndrome, Molecular Analysis**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 933
**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Prenatal Specimens**
Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 1 mL Amniotic Fluid: 10 mL

**Transport Temperature:**
Varies

**CPT Code Information:** 81331-SNRPN/UBE3A, (small nuclear ribonucleoprotein polypeptide N and ubiquitin protein ligase E3A) (eg, Prader-Willi syndrome and/or Angelman syndrome), methylation analysis; 88235-Amniotic Fluid Culture/Genetic Test; 88240-Cryopreservation (if appropriate); 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate);

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**PALB**

**Prealbumin (PAB), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Additional Information: This is an immunologic protein measurement. For thyroxine-binding measurement of prealbumin, see TBPE / Thyroxine-Binding Protein Electrophoresis, Serum.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

**CPT Code Information:** 84134

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**PGN**

**Pregabalin, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose. 2. Spin down within 2 hours of draw and move serum to plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Ambient 28 days
**Pregnenolone and 17-Hydroxypregnenolone**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen 28 days

**CPT Code Information:** 80366; G0480;

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**Pregnenolone, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen 28 days

**CPT Code Information:** 84140-Pregnenolone; 84143-17-Hydroxypregnenolone;

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**Prenatal Aneuploidy Detection, FISH**

**Specimen Requirements:**
- Submit only 1 of the following specimens: Preferred: Supplies:
  - Refrigerate/Ambient Mailer, 5 lb (T329)
  - Amniotic fluid Container/Tube: Amniotic fluid container
- Specimen Type: Amniotic fluid container
- Specimen Volume: 20-25 mL

  Collection Instructions:
  1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. Provide gestational age at the time of amniocentesis.
  2. Discard the first 2 mL of amniotic fluid.
  3. Place the tubes in a Refrigerate/Ambient Mailer, 5 lb (T329).
  4. Fill remaining space with packing material.

  Additional Information:
  1. Unavoidably, about 1% to 2% of mailed-in specimens are not viable.
  2. Bloody specimens are undesirable.
  3. If the specimen does not grow in culture, you will be notified within 7 days of receipt.
  4. Results will be reported and also telephoned or faxed, if requested.

  Acceptable: Supplies:
  - CVS Media (RPMI) and Small Dish (T095)

  Specimen Type: Chorionic villi

  Container/Tube: 15-mL tube containing 15 mL of transport media

  Specimen Volume: 20-30 mg

  Collection Instructions:
  1. Collect specimen by the transabdominal or transcervical method.
  2. Transfer chorionic villi to a Petri dish containing transport medium (Such as CVS Media (RPMI) and Small Dish [T095]).
  3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua.

  **Specimen Minimum Volume:** Amniotic Fluid: 2 mL; Chorionic Villi: 2 mg; If ordering in conjunction with other testing: If ordered with CHRAF: 12 mL; with CHRCV: 12 mg; with CMAP: 12 mL or 12 mg; with CHRAF/CHRCV and CMAP: 26 mL or 26 mg

**Transport Temperature:**
- Varies Refrigerated
  (preferred)
Ambient

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271 x 1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**PHSP**

**Prenatal Hepatitis Evaluation**

**Specimen Requirements:** Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2.5 mL Collection Instructions: Spin down and remove serum from gel within 24 hours.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum SST Frozen (preferred)
  - Refrigerated 7 days
  - Ambient 24 hours

**CPT Code Information:** 87340; 86707 (if appropriate); 87341 (if appropriate); 87350 (if appropriate);

**PNZIK**

**Prenatal Zika Virus IgM Antibody Capture MAC-ELISA, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2.5 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Frozen 30 days

**CPT Code Information:** 86794

**PHEP**

**Previous Hepatitis (Unknown Type)**

**Specimen Requirements:** Both 0.5 mL of refrigerated serum and 2.5 mL of frozen serum are required for this test. Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 3 mL Collection Instructions: 1. Centrifuge blood collection tube per collection tube manufacturer's instructions. 2. Pour off serum into aliquot tube.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
**Primidone and Phenobarbital, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL. Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
  - Frozen 28 days
  - Ambient 72 hours

**CPT Code Information:** PRIMD-80188; PBR-80184;

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**Privet Tree, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested. Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**Procainamide and N-acetylprocainamide, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL. Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
  - Frozen 14 days
  - Ambient 24 hours
CPT Code Information: PROC1-80190; NAPRO-80192;

**PCT 83169**

**Procalcitonin, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic screw-top aliquot tube Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 7 days
- Frozen: 90 days

CPT Code Information: 84145

**PINP 61695**

**Procollagen I Intact N-Terminal, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Frozen (preferred) 14 days
- Ambient: 7 days
- Refrigerated: 7 days

CPT Code Information: 83519

**POCRF 35295**

**Products of Conception (POC) Aneuploidy Detection, FISH, Fresh Tissue**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Preferred: Specimen Type: Products of conception or stillbirth Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 1 cm(3) of placenta (including 50-mg chorionic villi) and 1 cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: 1. Do not handle specimen with hands. 2. If a fetus cannot be specifically identified, collect 50-mg villus material or tissue that appears to be of fetal origin. Additional Information: 1. Do not send the entire fetus. 2. If a fetus is sent, please provide a parental release form or complete the Final Disposition of Fetal/Stillborn Remains form and send it with the fetus. (A copy of this form can be found in Special Instructions.) Please note that completion of the form requires a parent's signature. 3. Specimen cannot be frozen. 4. While fresher specimens prepared as described above are preferred, we can attempt analysis on specimens that have been in less-than-ideal conditions. 5. Label each container with the specimen type, patient's name, and laboratory control number. Acceptable: Specimen Type: Autopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 4 mm diameter Collection Instructions: 1. Wash biopsy site with an antiseptic soap (eg, pHisoHex). 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. Biopsy specimens are best taken by punch biopsy to include full thickness of
dermis. Additional Information: 1. Label each container with the specimen type, patient's name, and
laboratory control number. 2. Specimen cannot be frozen.

**Transport Temperature:**

Tissue Refrigerated (preferred)

Ambient

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**POCF**

35294

**Products of Conception (POC) Aneuploidy Detection, FISH, Paraffin-Embedded Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Formalin-fixed, paraffin-embedded tissue block containing fetal or placental (including chorionic villi) tissue. Additional Information: A pathology report must be submitted with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Acceptable: Slides Collection Instructions: 6 consecutive, unstained, 5-micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide. Additional Information: Do not send the entire fetus.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded tissue block Four consecutive, unstained, slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**

Tissue Ambient (preferred)

Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate);

**PROG**

70542

**Progesterone Receptor (PR) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
**PGSN 8141**

**Progesterone, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top

**Specimen Volume:** 1 mL

**Collection Instructions:** 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 180 days
- Refrigerated 72 hours
- Ambient 8 hours

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**PDL12 71723**

**Programmed Death-Ligand 1 (PD-L1) (22C3), Semi-Quantitative Immunohistochemistry, Manual**

**Specimen Requirements:** Specimen Type: Tissue Supplies: Pathology Packaging Kit (T554)

Collection Instructions: Formalin-fixed, paraffin-embedded tissue block; or 3 unstained glass, "positively charged" slides with 4-microns formalin-fixed, paraffin-embedded tissue

Additional Information: 1. One slide will be stained with hematoxylin and eosin and returned. 2. For information on selection of PD-L1 testing, see PD-L1 Immunohistochemistry Options in Special Instructions.

**Transport Temperature:**
- Special Ambient (preferred)
- Refrigerated

**CPT Code Information:** 84144

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**PDL1S 71729**

**Programmed Death-Ligand 1 (PD-L1) (SP142), Semi-Quantitative Immunohistochemistry, Manual**

**Specimen Requirements:** Supplies: Pathology Packaging Kit (T554) Specimen Type: Formalin-fixed, paraffin-embedded tissue block; or 3 unstained glass, "positively charged" slides with 4-microns formalin-fixed, paraffin-embedded tissue

Additional Information: 1. One slide will be stained with hematoxylin and eosin and returned. 2. For information on selection of PD-L1 testing, see PD-L1 Immunohistochemistry Options in Special Instructions.

**Transport Temperature:**

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PDL1


Specimen Requirements: Supplies: Pathology Packaging Kit (T554) Specimen Type: Formalin-fixed, paraffin-embedded tissue block; or 3 unstained glass, "positively charged" slides with 4-microns formalin-fixed, paraffin-embedded tissue Container/Tube: Pathology Packaging Kit (T554) Additional Information: 1. One slide will be stained with hematoxylin and eosin and returned. 2. For information on selection of PD-L1 testing, see PD-L1 Immunohistochemistry Options in Special Instructions.

Transport Temperature:
Special Ambient
(preferred)
Refrigerated

CPT Code Information: 88360

GRNZ

Progranulin Gene (GRN), Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Varies Ambient
(preferred)
Frozen
Refrigerated

CPT Code Information: 81406 GRN (granulin) (eg, frontotemporal dementia), full gene sequence

PINS

Proinsulin, Plasma

Specimen Requirements: Patient Preparation: 1. Patient should be fasting for 8 hours. 2. Infants under 2 years of age should fast a maximum of 6 hours. Collection Container/Tube: Ice-cooled, lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: After draw, chill the whole blood on ice for at least 10 minutes, then spin down in a refrigerated centrifuge.

Specimen Minimum Volume: 0.25 mL
Transport Temperature:
Plasma EDTA Frozen 90 days

CPT Code Information: 84206

**PRLI**

**Prolactin (PRL) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**PLPMA**

**Prolactin, Pituitary Macroadenoma, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1.75 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 90 days
Ambient 24 hours

CPT Code Information: 84146

**PRL**

**Prolactin, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen 90 days
Ambient 24 hours

CPT Code Information: 84146

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Current as of October 16, 2018 7:53 pm CDT
**PROCT 83097**

**Prolonged Clot Time Profile**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Patient should not be receiving Coumadin or heparin. If so, please note. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 5 mL in 5 plastic vials each containing 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen aliquots immediately at or below -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back.

**Specimen Minimum Volume:** 4 mL in 4 plastic vials each containing 1 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85366-Soluble fibrin monomer; 85379-D-dimer; 85384-Fibrinogen; 85390-26-Special coagulation interpretation; 85610-PT ; 85613-DRVVT; 85670-Thrombin time; 85730-APTT; 85210-Factor II (if appropriate); 85220-Factor V (if appropriate); 85230-Factor VII (if appropriate); 85240-Factor VIII (if appropriate); 85250-Factor IX (if appropriate); 85260-Factor X (if appropriate); 85270-Factor XI (if appropriate); 85335-Bethesda titer (if appropriate); 8535-Factor VIII inhibitor screen (if appropriate); 85597-Platelet neutralization for lupus inhibitor (if appropriate); 85598-Staclot LA (if appropriate); 85611-PT mix 1:1 (if appropriate); 85613-DRVVT mix (if appropriate); 85613-DRVVT confirm (if appropriate); 85635-Reptilase time (if appropriate); 85732-APTT mix 1:1 (if appropriate);

**PHD2 61683**

**Prolyl Hydroxylase Domain-2 (PHD2/EGLN1) Gene Sequencing**

**Specimen Requirements:** Only orderable as part of a profile. For more information see HEMP / Hereditary Erythrocytosis Mutations.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Whole blood Refrigerated 30 days

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

**FPHEG 90101**

**Promethazine (Phenergan)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days

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**CPT Code Information:** 80342
**PROMETHEUS IBD sgi Diagnostic**

**Specimen Requirements:** Requires both whole blood and serum  
Note: Specimens must be shipped together  
Blood: Collect 2 mL lavender top EDTA whole blood. Ship refrigerate.  
Serum: Draw blood in a plain, red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 2 mL of serum refrigerated.

**Specimen Minimum Volume:** Blood = 1 mL, Serum = 2 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 21 days, Frozen 30 days, Ambient 4 days
- Whole Blood EDTA: Refrigerated (preferred) 21 days, Ambient 4 days

**CPT Code Information:** 82397 x 3; 83520 x 8; 86140; 88346; 88350; 81479 x 4;

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**PROMETHEUS LactoTYPE**

**Specimen Requirements:** Collect 5 mL EDTA (lavender top) whole blood. Ship refrigerate.

**Specimen Minimum Volume:** 3.0 mL

**Transport Temperature:**
- Whole Blood EDTA: Refrigerated (preferred) 30 days, Ambient 10 days

**CPT Code Information:** 81400

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**Prometheus Thiopurine Metabolites**

**Specimen Requirements:** Specimen Type: Whole Blood  
Container/Tube: Lavender top (EDTA)  
Specimen volume: 5 mL  
Collection Instructions: Send 5 mL whole blood in original tube refrigerated

**Specimen Minimum Volume:** Pediatric Minimum Volume: 3 mL

**Transport Temperature:**
- Whole Blood EDTA: Refrigerated (preferred) 8 days, Ambient 72 hours

**CPT Code Information:** 82542

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**Propafenone, Serum**

**Specimen Requirements:** Container/Tube: Red top  
Specimen Volume: 3 mL  
Collection Instructions: Samples should only be collected after patient has been receiving propafenone for at least 3 days. Trough concentrations should be collected just before administration of the next dose.
Specimen Minimum Volume: 1.1 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 28 days

Ambient 28 days

Frozen 28 days

CPT Code Information: 80299

FPROP
90362

Propofol, Serum/Plasma

Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 3 mL of serum refrigerate in plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Plasma Draw blood in a lavender-top (EDTA) tube(s). (Plasma gel tube is not acceptable.) Spin down and send 3 mL of EDTA plasma refrigerate in plastic vial. Note: 1. Indicate plasma on request form. 2. Label specimen appropriately (plasma).

Specimen Minimum Volume: 1.2 mL

Transport Temperature:
Varies Refrigerated

CPT Code Information: 80375; G0480 (if appropriate);

FPD2U
75366

Prostaglandin D2 (PG D2), Urine

Specimen Requirements: Patient Preparation: Patient should not be on aspirin, indomethacin, or anti-inflammatory medications, if possible, for at least 48 hours prior to collection of specimen. Specimen Type: Urine Submission Container/Tube: Plastic, 10-mL tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Collect random urine (NO preservative). 3. Freeze immediately and send specimen frozen in the plastic, 10-mL urine tube (T068) Note: 24 hours urine collection is not acceptable.

Specimen Minimum Volume: 5 mL

Transport Temperature:
Urine Frozen 180 days

CPT Code Information: 84150

FPGD2
90154

Prostaglandin D2 (PGD2), Serum or Plasma

Specimen Requirements: Patient should not be on aspirin, indomethacin, or anti-inflammatory medications, if possible, for at least 48 hours prior to collection of specimen. Submit only 1 of the following specimens: Serum: Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable) Spin down and send 3 mL serum frozen in a plastic vial. Plasma: Draw blood in a (lavender-top) EDTA tube(s). (Plasma gel tube is acceptable) Spin down and send 3 mL plasma frozen in a plastic vial.

Specimen Minimum Volume: 1 mL

Transport Temperature:
PHI11
113000
Prostate Health Index (phi), Serum

**Specimen Requirements:** Patient Preparation: 1. Specimens for testing should be drawn prior to prostate manipulations such as digital rectal examination (DRE), prostatic massage, transrectal ultrasound (TRUS), and prostatic biopsy. 2. Specimens should not be collected from patients receiving therapy with high biotin (vitamin B7) doses (ie, >5 mg/day) until at least 8 hours following the last biotin administration. Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down within 3 hours of draw and separate serum from cells.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
Serum Red Frozen 150 days

CPT Code Information: 84150

PSAIM
70543
Prostate Specific Antigen (PSA) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

PROF
62665
Prostate Tumor, FISH, Tissue

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Acceptable: Slides Slides: Three consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
Tissue Ambient (preferred)
Refrigerated

CPT Code Information: 88271x2, 88291 - DNA probe, each (first probe set), Interpretation and
Prostate-Specific Antigen (PSA) Diagnostic, Serum

Specimen Requirements: Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection. Additional Information: Free prostate-specific antigen (PSA) can only be added on within 12 hours of performing total PSA. Specimen must have been shipped frozen.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Frozen (preferred) 180 days
Refrigerated 5 days

CPT Code Information: 84153

Prostate-Specific Antigen (PSA) Screen, Serum

Specimen Requirements: Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.6 mL Collection Instructions: 1. Red-top tube must be centrifuged and aliquoted within 2 hours of draw time. 2. Serum gel tube must be centrifuged within 2 hours of draw time. Additional Information: Free prostate-specific antigen (PSA) can only be added to previously-submitted specimen within 12 hours of performing total PSA. Specimen must have been shipped frozen.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Frozen (preferred) 180 days
Refrigerated 5 days

CPT Code Information: 84153; G0103 (if appropriate)

Prostate-Specific Antigen (PSA) Ultrasensitive, Serum

Specimen Requirements: Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.
**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Frozen (preferred) 180 days
- Refrigerated 5 days

**CPT Code Information:** 84153

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**PSAFT 81944**  
**Prostate-Specific Antigen (PSA), Total and Free, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down within 3 hours of draw and separate serum from cells. Additional Information: Free prostate-specific antigen (PSA) can only be added on within 12 hours of performing total PSA. Specimen must have been shipped frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen 90 days

**CPT Code Information:** 84153-Total; 84154-Free;

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**PACPI 70531**  
**Prostatic Acid Phosphatase (PACP) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**PACP 8019**  
**Prostatic Acid Phosphatase (PAP), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 180 days
**Protein C Activity, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Fasting 2. Spin down, remove plasma, and spin plasma again. 3. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial. 3. If the patient is being treated with Coumadin, this should be noted. Coumadin will lower protein C. 4. Heparin > or =4 U/mL may interfere with this assay. 5. Lipemic specimen may be rejected. 6. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason, we suggest ordering THRMP / Thrombophilia Profile.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 84066

**Protein C Antigen, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial. 3. If the patient is being treated with Coumadin, this should be noted. Coumadin will lower protein C. 4. Coagulation testing is highly complex, often requiring the performance of multiple assays and correlation with clinical information. For that reason, we suggest ordering THRMP / Thrombophilia Profile.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85303

**Protein Catabolic Rate, 24 Hour, Urine**

**Specimen Requirements:** Only orderable as part of a profile. For more information see SAT24 / Supersaturation Profile, 24 Hour, Urine.

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 85302
CPT Code Information: Calculation only

**SPE**

**602792**

**Protein Electrophoresis**

**Specimen Requirements:** Only orderable as part of a profile. For more information see: SPEP / Electrophoresis, Protein, Serum SPISO / Protein Electrophoresis and Isotype, Serum SMOGA / Monoclonal Gammopathy Screen, Serum

**Container/Tube:** Preferred: Serum gel Acceptable: Red top

**Specimen Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

CPT Code Information: 84165

**SPISO**

**603224**

**Protein Electrophoresis and Isotype, Serum**

**Specimen Requirements:** Patient Preparation: Fasting (12 hour) preferred but not required

**Container/Tube:** Preferred: Serum gel Acceptable: Red top

**Specimen Volume:** 1 mL

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

CPT Code Information: 84155; 84165; 84999; 86334 (if appropriate);

**S FX**

**80775**

**Protein S Activity, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Patient must not be receiving Coumadin.

**Specimen Type:** Platelet-poor plasma

**Collection Container/Tube:** Light-blue top (citrate)

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Collection Instructions:**
1. Spin down, remove plasma, and spin plasma again.
2. Freeze specimen immediately at < or =-40°C, if possible.

**Additional Information:**
1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.
2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma Na Cit Frozen 14 days

CPT Code Information: 85306

**PSTF**

**83049**

**Protein S Antigen, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for
Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 1 mL in 2 plastic vials each containing 0.5 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimens immediately at < or =-40 degrees C, if possible. 3. Send specimens in the same shipping container. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If the patient is being treated with Coumadin, this should be noted. Coumadin will lower protein S. 3. Patient must not be receiving heparin or Coumadin.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit  Frozen 14 days

**CPT Code Information:** 85306-Free; 85305-Total (if appropriate);

12PTU 89043

**Protein, Total, 12 Hour, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect a 12-hour urine specimen. 2. No preservative. 3. Invert well before taking 4-mL aliquot. 4. Do not overfill aliquot tube, 4 mL at most.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days

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**CPT Code Information:** 84156

PTU 8261

**Protein, Total, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect urine for 24 hours. 2. No preservative. 3. Invert well before taking 4-mL aliquot. 4. Do not overfill aliquot tube 4 mL at most. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days

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**CPT Code Information:** 84156

TPBF 8420

**Protein, Total, Body Fluid**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: 1. Centrifuge to remove any cellular material. 2. Indicate specimen source.
**TP**

**8520**

**Protein, Total, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 180 days

**CPT Code Information:** 84157

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**TPSF**

**872**

**Protein, Total, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 1 mL Collection Instructions: Centrifuge specimen to remove any cellular material.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 72 hours
- Frozen 180 days

**CPT Code Information:** 84157

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**RPTU**

**601551**

**Protein:Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Patient Preparation: Samples should be collected before fluorescein is given, or not collected until at least 24 hours later. Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. 3. Invert well before taking 4 mL aliquot. 4. Do not overfill aliquot tube, maximum 4 mL.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 84156; 82570;
**Proteinase 3 Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 83516

**Prothrombin Fragment 1+2**

**Specimen Requirements:** Draw blood in a light blue-top (sodium citrate) tube(s). Spin down and send 1 mL of sodium citrate plasma frozen in plastic vial. Note: Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma Na Cit Frozen

**CPT Code Information:** 83520

**Prothrombin G20210A Mutation, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution A or B) Acceptable: EDTA or sodium citrate Specimen Volume: Full tube Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Additional Information: Can be combined with other molecular coagulation tests: - MTHAC / 5,10-Methylenetetrahydrofolate Reductase A1298C, Mutation, Blood - F5DNA / Factor V Leiden (R506Q) Mutation, Blood - MTHFR / 5,10-Methylenetetrahydrofolate Reductase C677T, Mutation, Blood - MTHP / 5,10-Methylenetetrahydrofolate Reductase C677T and A1298C Mutations, Blood

**Specimen Minimum Volume:** 1 mL in a 3-mL ACD tube

**Transport Temperature:**
- Whole blood Ambient (preferred) 7 days
- Frozen 14 days
- Refrigerated 14 days

**CPT Code Information:** 81240-F2 (prothrombin, coagulation factor II) (eg, hereditary hypercoagulability) gene analysis, 20210G->A variant ; ;

**Prothrombin Time (PT), Plasma**

**Specimen Requirements:** Only orderable as part of a coagulation consultation. For more information see 1 of the following: LUPPR / Lupus Anticoagulant Profile BDIAL / Bleeding Diathesis
Profile THRMP / Thrombophilia Profile PROCT / Prolonged Clot Time Profile

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85610

### PTMX 9053

**Prothrombin Time Mix 1:1**

**Specimen Requirements:** Only available as part of a coagulation consultation. For more information see 1 of the following: LUPPR / Lupus Anticoagulant Profile BDIAL / Bleeding Diathesis Profile THRMP / Thrombophilia Profile PROCT / Prolonged Clot Time Profile

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85611

### PTTP 40934

**Prothrombin Time, Plasma**

**Specimen Requirements:** Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (3.2% sodium citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Spin down, remove plasma and spin plasma again Additional Information: Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen (preferred) 30 days

Ambient 24 hours

**CPT Code Information:** 85610

### PPFWE 31891

**Protoporphyrins, Fractionation, Washed Erythrocytes**

**Specimen Requirements:** All porphyrin tests on erythrocytes can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Dark blue top (metal free heparin) or green top (lithium heparin) Submission Container/Tube: Plastic vial Specimen Volume: Washed erythrocyte suspension Collection Instructions: Collect and process whole blood specimen as follows: 1. Transfer entire specimen to a 12-mL graduated centrifuge tube. 2. Centrifuge specimen for 10 minutes at 2,000 rpm. 3. Record volume of packed cells and the total volume of the specimen. 4. Discard supernatant plasma. 5. Wash packed erythrocytes 2 times by resuspension of at least an equal amount of cold 0.9% saline, mix, and centrifuge for 5 minutes at 2,000 rpm, discarding supernatant after each washing. 6. Resuspend packed cells to the original total volume with 0.9% saline. Invert specimen gently to mix. 7. Transfer washed erythrocytes into a plastic vial and freeze.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Washed RBC Frozen (preferred) 14 days
PPFE
8739

**Protoporphyrins, Fractionation, Whole Blood**

**Specimen Requirements:** All porphyrin tests on whole blood can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Dark blue top (metal free heparin) or green top (lithium heparin) Specimen Volume: Full tube Collection Instructions: Immediately place specimen on wet ice.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole blood Refrigerated 7 days

CPT Code Information: 82542

PROTR
9797

**Protriptyline (Vivactyl)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days
- Frozen 180 days
- Ambient 72 hours

CPT Code Information: 80335

PRSSZ
35532

**PRSS1 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient (preferred)
- Frozen
- Refrigerated
CPT Code Information: 81404-PRSS1 (protease, serine, 1 [trypsin 1]) (eg, hereditary pancreatitis), full gene sequence

CHED 8767

**Pseudocholinesterase, Dibucaine Inhibition, Serum**

**Specimen Requirements:** Patient Preparation: For cases of prolonged apnea following surgery, wait 24 hours before obtaining specimen. Container/Tube: Preferred: Serum gel Acceptable: Red top

Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 82480-Pseudocholinesterase, total; 82638-Pseudocholinesterase, dibucaine inhibition;

PCHES 8518

**Pseudocholinesterase, Total, Serum**

**Specimen Requirements:** Patient Preparation: For cases of prolonged apnea following surgery, wait 24 hours before obtaining specimen. Container/Tube: Preferred: Serum gel Acceptable: Red top

Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 82480

PSYWB 601854

**Psychosine, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Green top (sodium heparin) Specimen Volume: 2 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Whole blood Refrigerated (preferred) 7 days
- Ambient 7 days

CPT Code Information: 82542

PSY 62235

**Psychosine, Blood Spot**

**Specimen Requirements:** Supplies: Card-Blood Spot Collection (Filter Paper) (T493)
Container/Tube: Preferred: Card-Blood Spot Collection (Filter Paper) (T493) Acceptable: Ahlstrom 226 filter paper, Munktell filter paper, Whatman protein Saver 903 paper, or blood collected in tubes containing heparin or EDTA and dried on filter paper Specimen Volume: 2 blood spots Collection Instructions: 1. Completely fill at least 2 circles on the filter paper card (approximately 100 microliters blood per circle). 2. Let blood dry on filter paper at room temperature in a horizontal position for 3 or more hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** 1 blood spot  
**Transport Temperature:**  
- Whole blood: Ambient (preferred) 96 days  
- Frozen: 96 days  
- Refrigerated: 96 days

**CPT Code Information:** 82542

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**PTENZ**

**PTEN Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL  
**Transport Temperature:**  
- Varies  
  - Ambient (preferred)  
  - Frozen  
  - Refrigerated

**CPT Code Information:** 81321-PTEN (phosphatase and tensin homolog) (eg. Cowden syndrome, PTEN hamartoma tumor syndrome gene analysis; full gene analysis; ); Additional Tests; Hereditary Colon Cancer CGH Array; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);  

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**FPTHC**

**PTH Accuratio Comprehensive Profile**

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 2 mL EDTA plasma frozen in a plastic vial. Note: Processing of samples should be completed within one hour of blood collection  
**Transport Temperature:**  
- Plasma EDTA: Frozen

**CPT Code Information:** 83970x2
**PTH Antibody**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen (preferred) 28 days
- Ambient 14 days
- Refrigerated 14 days

**CPT Code Information:** 83519

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**PU.1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Pumpkin Seed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Purines and Pyrimidines Panel, Plasma**

**Specimen Requirements:** Collection Container/Tube: Purple/Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Centrifuge at 4°C ½ C and aliquot plasma. Send plasma frozen.

**Specimen Minimum Volume:** 0.2 mL
Transport Temperature:
Plasma Frozen 90 days

CPT Code Information: 82542

PUPYU
Purines and Pyrimidines Panel, Urine
Specimen Requirements: Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube Specimen Volume: 3 mL Collection Instructions: Collect a random urine specimen.
Specimen Minimum Volume: 2 mL
Transport Temperature: Urine Frozen 90 days
CPT Code Information: 82542

FPYRE
Pyrethrum IgE
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days
CPT Code Information: 86003

FPYD
Pyridostigmine, Serum/Plasma
Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and freeze immediately. Send 5 mL of serum frozen in a plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Plasma Draw blood in a lavender-top tube(s) or a green-top tube(s). (Plasma gel tube is not acceptable.) Spin down and freeze immediately. Send 5 mL of EDTA or heparinized plasma frozen in a plastic vial. Note: 1. Indicate plasma on request form. 2. Label specimen appropriately (plasma).
Specimen Minimum Volume: 2.2 mL
Transport Temperature:
Varies Frozen 21 days
CPT Code Information: 80375

FP5PC
Pyridoxal 5-phosphate (CSF)
Specimen Requirements: Medical Neurogenetics collection kit (MML Supply T657) required. NOTE: One set of tubes is required per patient. Total CSF volume required is 4.5 milliliters Each collection kit contains 5 micro centrifuge tubes. Tube #3 contains antioxidants necessary to perform this test. COLLECTION PROTOCOL: CSF should be collected from the first drop into the tubes in the numbered order. 1) Fill each tube to the marked line with the required volumes. Tube 1: 0.5 mL Tube 2: 1.0 mL Tube 3: 1.0 mL (contains antioxidants necessary to protect the sample integrity) Tube 4: 1.0 mL Tube 5: 1.0 mL - If sample's not blood contaminated, the tubes should be placed on dry ice at bedside - If sample's are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes, then frozen - Store samples at -80 until they can be shipped 2) Complete Medical Neurogenetics, LLC request form. Include test required, sample date and date of birth. 3) Label tubes with patient name and ID number, leaving the tube number viewable. 4) Place samples inside a specimen transport bag and the Medical Neurogenetics, LLC request form inside the pouch of the transport bag. 5) Ship samples frozen on dry ice.

Transport Temperature:
CSF Frozen

CPT Code Information: 82542

Pyridoxal 5-Phosphate (PLP), Plasma

Specimen Requirements: Patient Preparation: 1. Fasting-overnight (12-14 hours) (infants-draw prior to next feeding). 2. Patient must not ingest vitamin supplements for 24 hours before the specimen is drawn. Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Green top (sodium or lithium heparin) Submission Container/Tube: Amber vial (T192) Specimen Volume: 1 mL Collection Instructions: Centrifuge at 4°C, then aliquot all plasma into amber vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature: Plasma Heparin Refrigerated (preferred) 7 days
Frozen 14 days

CPT Code Information: 84207

Pyridoxic Acid (PA), Plasma

Specimen Requirements: Only orderable as part of a profile. For more information see B6PRO / Vitamin B6 Profile (PLP and PA), Plasma.

Specimen Minimum Volume: 0.25mL

Transport Temperature: Plasma Heparin Refrigerated (preferred) 7 days
Frozen 14 days

CPT Code Information: 82542

Pyrimidine 5' Nucleotidase, Blood

Specimen Requirements: Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Lavender top (EDTA) Specimen Volume: 5 mL
Specimen Minimum Volume: 3 mL
Transport Temperature:
Whole Blood ACD-B Refrigerated 20 days

CPT Code Information: 83915

**PDHC**

**Pyruvate Dehydrogenase Complex (PDHC), Fibroblasts**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

**Transport Temperature:**
Tissue Varies

CPT Code Information: 84311-PDHC; 88233-Fibroblast culture; 88240-Cryopreservation for biochemical studies;

**PKLRG**

**Pyruvate Kinase Liver and Red Blood Cell (PKLR) Full Gene Sequencing and Large Deletion Detection**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Yellow top (ACD solution B) or Purple top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Refrigerated Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 microliters Collection Instructions: 1. The preferred volume is 100 microliters at a concentration of 250 ng/mcL 2. Include concentration and volume on tube Specimen Stability Information: Frozen preferred; Ambient/refrigerate acceptable

**Specimen Minimum Volume:** Whole blood: 0.5 mL

**Transport Temperature:**
Varies

CPT Code Information: 81405-PKLR

**PK**

**Pyruvate Kinase, Erythrocytes**

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: EDTA Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood ACD-B Refrigerated 20 days
**Pyruvate, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.6 mL Collection Instructions: Send specimen from vial 2.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- CSF Frozen (preferred) 7 days
- Ambient 7 days
- Refrigerated 7 days

**CPT Code Information:** 84220

**Pyruvic Acid, Blood**

**Specimen Requirements:** Call 800-533-1710 or 507-266-5700 to order special collection tube. Patient Preparation: Fasting (at least 4 hours) Supplies: Perchloric Acid–Pyruvate Tube (T012)

**Specimen Volume:** Exactly 1 mL Collection Instructions: 1. Special collection tube must be prechilled prior to draw. 2. Draw enough blood directly into syringe to add exactly 1 mL of blood to the prechilled special collection tube. 3. Once drawn, immediately transfer blood to the prechilled, special collection tube and shake vigorously to mix. Additional Information: 1. Check expiration date before using. Supplied collection tube expires 12 months after preparation. 2. If perchloric acid spills, obtain new, prechilled tube.

**Specimen Minimum Volume:** 1 mL blood added to special collection tube

**Transport Temperature:** Whole blood Refrigerated 15 days

**CPT Code Information:** 84210

**Q Fever Antibody, IgG and IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 86638 x 4

**Quad Screen (Second Trimester) Maternal, Serum**

**CPT Code Information:** 113145
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: 1. Do not draw specimen after amniocentesis, as this could affect results. 2. Centrifuge Immediately Additional Information: 1. For an assessment that includes neural tube defect results, gestational age must be between 15 weeks, 0 days and 22 weeks, 6 days. 2. Assessments for trisomy 21 (Down syndrome) and trisomy 18 (Edwards syndrome) only are available between 14 weeks, 0 days and 22 weeks, 6 days. 3. Initial or repeat testing is determined in the laboratory at the time of report and will be reported accordingly. To be considered a repeat test for the patient, the testing must be within the same pregnancy and trimester, with interpretable results for the same tests, and both tests are performed at Mayo Clinic. 4. Patient education brochure (T522) is available upon request.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 90 days

**CPT Code Information:** 81511

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**QuantiFERON-TB Gold Plus, Blood**

**Specimen Requirements:** Supplies: -Standard Altitude: QuantiFERON-TB Gold Plus Collection Kit (T794) -High Altitude: QuantiFERON-TB Gold Plus High Altitude Collection Kit (T795) Collection Instructions: 1. Special collection, incubation, and centrifugation procedures must be followed. 2. For blood collection options (1-tube collection or 4-tube collection) and specimen transport instructions, see Mycobacterium tuberculosis Infection Determination by QTB Gold Plus Collection and Processing Instructions (T688); available in Special Instructions.

**Specimen Minimum Volume:** 4 mL-1 mL per tube (4 tubes)

**Transport Temperature:**
Whole blood Refrigerated 28 days

**CPT Code Information:** 86480

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**Quantitative Lymphocyte Subsets: T, B, and Natural Killer (NK)**

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: 4 mL Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Ambient 52 hours

**CPT Code Information:** 86355-B cells, total count; 86357-Natural killer (NK) cells, total count; 86359-T cells, total count; 86360-Absolute CD4/CD8 count with ratio;

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**Queen Palm, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
  
  Frozen 90 days

**CPT Code Information:** 86003

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**FQUET** 91727

Quetiapine (Seroquel)

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days
  
  Frozen 180 days
  
  Ambient 72 hours

**CPT Code Information:** 80342

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**QUIND** 37060

Quinidine, Serum

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.5 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 14 days
  
  Frozen 28 days
  
  Ambient 14 days

**CPT Code Information:** 80194

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**FQUIN** 57922

Quinoa (Chenopodium quinoa) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
  
  Frozen 365 days
**REPII 82782**

**Rabbit Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**RAMB 82860**

**Rabbit Meat, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**RSER 82544**

**Rabbit Serum Proteins, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003
Rabbit Urine Proteins, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Rabies Antibody Endpoint

Specimen Requirements: Specimen Type: Serum Container/Tube: Red Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain red-top tube(s), Spin down and send 2 mL of serum refrigerated in a plastic vial. Note: 1. Serum gel tube is acceptable, but must be poured off into plastic vial. 2. Collection date is required.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 60 days

CPT Code Information: 86382

Radish (Raphanus sativus) IgE

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

CPT Code Information: 86003

Raji Cell Immune Complex Assay

Specimen Requirements: Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Frozen 30 days

**CPT Code Information:** 86332

### RASE

#### Rape Seed, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### RWEED

#### Rape Weed, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### MAL

#### Rapid Malaria/Babesia Smear

**Specimen Requirements:** Both blood and slides are required. Specimen Type: Blood Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL Collection Instructions: 1. Invert several times to mix blood. 2. Do not transfer blood to other containers. Send specimen in original tube. Specimen Type: Blood films Slides: 2 thin blood films and 2 thick blood films Container/Tube: Plastic slide container Collection Instructions: 1. Slides must be clean and grease-free. 2. Blood films should be made from fresh blood using fingerstick or drops of blood from needle following venipuncture. However, EDTA anticoagulated blood is also acceptable. 3. Prepare thin blood films as follows: a. Prepare 2 thin smears with the mini prep-slide machine. OR b. Prepare a thin film with a "feathered edge," which is no more than a single cell thick. c. Allow the film to thoroughly air dry and then fix by briefly immersing in either absolute or 95% methyl alcohol. d. Allow to air dry after fixation. 4. Prepare thick blood films as follows: a. Place a large drop of blood (approximately the size of a dime and preferably from a fingerstick) on a slide. b. Using a corner of a second slide spread the drop in a circular motion while applying firm pressure to literally scratch the blood onto the carrier slide. This technique allows the blood to dry quickly and adhere well to the slide. Use approximately 20 circular sweeps with the second slide. The drop of blood should be about the size of a quarter when finished. c. Do not fix.
Air dry thoroughly (approximately 45 minutes) before placing in transport container.

**Specimen Minimum Volume:** Blood: 0.5 mL Slides: See Specimen Required.

**Transport Temperature:**
Varies Refrigerated
(preferred)
Ambient

**CPT Code Information:** 87207

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RPRT

**9056**

Rapid Plasma Reagin (RPR), Response to Therapy, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86592

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RASFP

**36517**

RAS/RAF Targeted Gene Panel by Next-Generation Sequencing, Tumor

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Slides: 1 stained and 10 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained, unbaked slides with 5-micron thick sections of the tumor tissue. Acceptable: Specimen Type: Cytology Container/Tube: Cytology slide (Direct smears or ThinPrep) Slides: 1-2 slides (stained and coverslipped) with a minimum of 5,000 total nucleated cells Collection Instructions: Submit 1-2 slides stained and coverslipped. Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 8 unstained, nonbaked slides

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen Refrigerated

**CPT Code Information:** RAS/RAF Targeted Gene Panel by Next Generation Sequencing, Tumor; 81210-BRAF (v-raf murine sarcoma viarl oncogene homolog B1) (eg, colon cancer), gene analysis, V600E variant; 81275-KRAS (v-Ki-ras2 Kirsten rat sarcoma viral oncogene) (eg, carcinoma) gene analysis, variants in codons 12 and 13 ; 81403-HRAS (v-Ha-ras Harvey rat sarcoma viral oncogene homolog) (eg, Costello syndrome), exon 2 sequence; 81404-NRAS (neuroblastoma RAS viral oncogene homolog) (eg, colorectal carcinoma), exon 1 and exon 2 sequence; Slide Review; 88381-Microdissection, manual;
**FRASP 57665**
**Raspberry IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
- Frozen: 365 days
- Ambient: 7 days

**CPT Code Information:** 86001

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**RASP 86305**
**Raspberry, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

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**RAT 82725**
**Rat Epithelium, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

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**RTSP 82793**
**Rat Serum Protein, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### RTUP

**Rat Urine Protein, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### FRMTA

**Recombx MaTa Autoantibody Test**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 83520

### EEEVP

**Red Blood Cell (RBC) Enzyme Evaluation**

**Specimen Requirements:** Container/Tube: Yellow top (ACD solution B) Specimen Volume: 12 mL Collection Instructions: Do not transfer blood to other containers.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Whole Blood ACD-B Refrigerated 8 days

**CPT Code Information:** 82955-G-6-PD; 84087-Glucose phosphate isomerase; 84220-Pyruvate kinase; 82657-Hexokinase; 82978-Glutathione (if appropriate); 83915-RBC Enzymes (if appropriate);
**NGENZ**

64937

**Red Blood Cell Enzyme Sequencing, Varies**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood (preferred) Container/Tube: Preferred: Lavender top (EDTA) or Yellow top or (ACD) Acceptable: Green top (heparin) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood Specimen Stability: Refrigerated < or =30 days Specimen Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: 1. Indicate volume and concentration of the DNA. 2. Label specimen as extracted DNA and source of specimen. Specimen Stability: Frozen/Refrigerated/Ambient < or =30 days

**Specimen Minimum Volume:** Blood, Bone Marrow: 1 mL Extracted DNA: 100 mcL at 20 ng/mcL concentration

**Transport Temperature:**

Varies

**CPT Code Information:** 81350-UGT1A1 (UDP glucuronosyltransferase 1 family, polypeptide A1) (eg, irinotecan metabolism), gene analysis, common variants (eg, *28, *36, *37); 81364-HBB; 81405-PKLR; 81479-AK1, ALDOA, GPI, GSR, GSS, HBD, HK1, HMOX1, NT5C3A, PGK1, TP11, GCLC and PFKM; 81249-G6PD;

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**RBCME**

64897

**Red Blood Cell Membrane Evaluation, Blood**

**Specimen Requirements:** A whole blood EDTA specimen, an EDTA control specimen, and 2 well-made peripheral blood smears (Wright stained or fixed in absolute methanol) are required for testing. Patient: Specimen Type: Blood Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: 1. Immediately refrigerate specimen after draw. Refrigerate at 0 to 4°C. Do not freeze. Freezing causes sample lysis, and tests will not be performed on hemolyzed specimens. 2. Send specimen in original tube. Do not aliquot. 3. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results. 4. Be sure specimen and control are stored and transported together at refrigerator temperature, carefully following proper handling and shipping instructions. Patient: Specimen Type: Slides Container/Tube: Blood smears Specimen Volume: 2 well-made peripheral blood smears Collection Instructions: Collect 2 well-made peripheral blood smears (Wright stained or fixed in absolute methanol). Normal Shipping Control: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 4 mL Collection Instructions: 1. Draw a control specimen from a normal (healthy), unrelated, nonsmoking person at the same time as the patient. 2. Label clearly on outermost label normal control. 3. Immediately refrigerate specimen after draw. Refrigerate at 0 to 4°C. Do not freeze. Freezing causes sample lysis, and tests will not be performed on hemolyzed specimens. 4. Send specimen in original tube. Do not aliquot. 5. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**

Control Refrigerated 72 hours
Whole Blood EDTA Refrigerated 72 hours
Whole Blood Slide Refrigerated

**CPT Code Information:** 85557-Osmotic fragility; 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker x 1; 85060-Morphology review;
Red Blood Cell Membrane Sequencing, Varies

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Peripheral blood (Preferred) Container/Tube: Preferred: Lavender top (EDTA) or Yellow top (ACD) Acceptable: Green top (heparin) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label specimen as blood. Specimen Stability: Refrigerated < or =30 days Specimen Type: Extracted DNA Container/Tube: 1.5- to 2-mL tube Specimen Volume: Entire specimen Collection Instructions: 1. Indicate volume and concentration of the DNA. 2. Label specimen as extracted DNA and source of specimen. Specimen Stability: Frozen/Refrigerated/Ambient < or =30 days

**Specimen Minimum Volume:** Blood: 1 mL/Extracted DNA: 100 mcL at 20 ng/mcL concentration

**Transport Temperature:** Varies

**CPT Code Information:** 81350-UGT1A1 (UDP glucuronosyltransferase 1 family, polypeptide A1) (eg, irinotecan metabolism), gene analysis, common variants (eg, *28, *36, *37); 81404-Molecular pathology procedure, Level 5 (eg, analysis of 2-5 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of 6-10 exons, or characterization of a dynamic mutation disorder/triplet repeat by Southern blot analysis); 81405-Molecular pathology procedure, Level 6 (eg, analysis of 6-10 exons by DNA sequence analysis, mutation scanning or duplication/deletion variants of 11-25 exons, regionally targeted cytogenomic array analysis); 81479-Unlisted molecular pathology procedure;

Red Currant, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:** Serum Refrigerated (preferred) 14 days

Frozen 90 days

**CPT Code Information:** 86003

Red Snapper (Lutjanus spp) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:** Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 28 days
**Sorra**

**82737**

**Red Sorrel, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**Red Top, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**Reducing Substance, Feces**

**Specimen Requirements:** Supplies: Stool container, small (Random), 4 oz (T288) Container/Tube: Stool container (T288) Specimen Volume: 3 g Collection Instructions: 1. Collect a loose, random stool specimen. 2. Freeze immediately. Additional Information: If additional tests are ordered, aliquot and separate sample prior to freezing to allow 1 container per test.

**Specimen Minimum Volume:** 2 g

**Transport Temperature:**
- Fecal Frozen 7 days

**Relative B-Cell Subset Analysis Percentage**

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day. Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: < or =14 years: 4 mL >14 years: 10 mL Collection Instructions: 1. Send...
specimen in original tube. Do not aliquot. 2. Label specimen as blood for RBCS / Relative B Cell Subset Analysis Percentage.

**Specimen Minimum Volume:** < or = 14 years: 3 mL; > 14 years: 5 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated 48 hours

**CPT Code Information:** 88184; 88185 x 7;

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**TFEBF 64973**

**Renal Cell Carcinoma, 6p21.1 (TFEB) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Specimen Type: Slides Specimen Volume: 4 Consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
Tissue Ambient (preferred)
Refrigerated

**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271 x 1-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**RFAMA 113634**

**Renal Function Panel, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated 24 hours

**CPT Code Information:** KS: 84132; NAS: 84295; CL: 82435; HCO3: 82374; BUN: 84520; CRTS1: 82565; CA: 82310; GLURA: 82947; ALB: 82040; PHOS: 84100;

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**RPCWT 70591**

**Renal Pathology Consultation, Wet Tissue**

**Specimen Requirements:** Supplies: Renal Biopsy Kit (T231) Source: Kidney Specimen Volume: Entire specimen Collection Instructions: Collect specimens according to the instructions in Renal Biopsy-Procedures of Handling Tissue for Light Microscopy, Immunohistology, and Electron Microscopy

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Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
in Special Instructions.

**Specimen Minimum Volume:** Entire Specimen

**Transport Temperature:**
Kidney Biopsy
- Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88305 (If appropriate); 88348 (If appropriate); 88313 (If appropriate); 88346 (If appropriate); 88350 (If appropriate); ;

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**Renin Activity, Plasma**

**Specimen Requirements:** Patient Preparation: The plasma renin activity cannot be interpreted if the patient is being treated with spironolactone (Aldactone). Spironolactone should be discontinued for 4 to 6 weeks before testing. Collection Container/Tube: Chilled, lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Draw blood in a chilled syringe from a patient in a seated position; place specimen in a chilled, lavender-top (EDTA) tube; and mix. 2. Alternatively, draw blood directly in a chilled, lavender top (EDTA) tube. 3. Immediately place EDTA tube into an ice-water bath until thoroughly cooled. 4. Refrigerate specimen during centrifugation and immediately transfer plasma to plastic vial. (If a refrigerated centrifuge is unavailable, chill the centrifuge carriers. Centrifuge specimen for < or =5 minutes, then promptly transfer plasma.) 5. Immediately freeze plasma. Additional Information: See Renin-Aldosterone Studies in Special Instructions for further information.

**Specimen Minimum Volume:** 1.15 mL

**Transport Temperature:**
Plasma EDTA Frozen 14 days

**CPT Code Information:** 84244

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**Reptilase Time, Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85635

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**Respiratory Profile, Region 1, North Atlantic (CT, MA, ME, NJ, NH, NY, PA, RI, VT)**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 975
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.8 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.6 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82785-IgE; 86003 x 25-Each individual allergen;

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**RPR10 62056**

Respiratory Profile, Region 10, Southwestern Grasslands (OK, TX)

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.55 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82785-IgE; 86003 x 25-Each individual allergen ;

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**RPR11 62057**

Respiratory Profile, Region 11, Rocky Mountain (AZ [Mt]; CO; ID [Mt]; NM, UT [Mt]; WY)

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82785-IgE; 86003 x 24-Each individual allergen ;

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**RPR12 62058**

Respiratory Profile, Region 12, Arid Southwest (Southern AZ Desert, Southern CA Desert)

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days
CPT Code Information: 82785-IgE; 86003 x 22-Each individual allergen;

**RPR13**
**Respiratory Profile, Region 13, Southern Coastal California**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 24-Each individual allergen;

**RPR14**
**Respiratory Profile, Region 14, Central California**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 23-Each individual allergen;

**RPR15**
**Respiratory Profile, Region 15, Intermountain West (Southern ID, NV)**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.6 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 22-Each individual allergen;

**RPR16**
**Respiratory Profile, Region 16, Inland Northwest (OR, Central and Eastern WA)**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.6 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.4 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 21-Each individual allergen;

**RPR17**
Respiratory Profile, Region 17, Pacific Northwest (Northwestern CA, Western OR, WA)
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: 1.5 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 23-Each individual allergen;

**RPR18**
Respiratory Profile, Region 18, Alaska
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.3 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: 1.1 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 15-Each individual allergen;

**RPR19**
Respiratory Profile, Region 19, Puerto Rico
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.6 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: 1.4 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 21-Each individual allergen;

**RPR2**
Respiratory Profile, Region 2, Mid-Atlantic (DC, DE, MD, NC, VA)
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.3 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: 1.1 mL
Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 23-Each individual allergen;
Volume: 1.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82785-IgE; 86003 x 23-Each individual allergen;

**RPR3**

**Respiratory Profile, Region 3, South Atlantic (GA, N.FA, SC)**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.6 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82785-IgE; 86003 x 22-Each individual allergen;

**RPR4**

**Respiratory Profile, Region 4, Sub-tropic Florida (Florida S. of Orlando)**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.6 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82785-IgE; 86003 x 22-Each individual allergen;

**RPR5**

**Respiratory Profile, Region 5, Ohio Valley (IN, KY, OH, TN, WV)**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 1.6 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82785-IgE; 86003 x 26-Each individual allergen;
Respiratory Profile, Region 6, South Central (AL, AR, LA, MS)

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.6 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 1.4 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 22-Each individual allergen;

Respiratory Profile, Region 7, Northern Midwest (MI, MN, WI)

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 1.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 23-Each individual allergen;

Respiratory Profile, Region 8, Central Midwest (IA, IL, MO)

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 1.55 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 82785-IgE; 86003 x 25-Each individual allergen;

Respiratory Profile, Region 9, Great Plains (KS, ND, NE, SD)

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.6 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: 1.4 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days
CPT Code Information: 82785-IgE; 86003 x 22-Each individual allergen;

**Respiratory Syncytial Virus (RSV) Antibodies, IgG and IgM (Separate Determinations), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 86756 x 2

**RSVAB**

**Respiratory Syncytial Virus (RSV) In Situ Hybridization, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 4 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88365-TC, Primary; 88364-TC, if additional ISH;

**FRVP**

**Respiratory Virus Profile (RVP), PCR**

**Specimen Requirements:** Submit only one of the following: Swab: Collect 1 Nasopharyngeal (NP) swab in universal transport media, freeze. Ship frozen. Wash: Collect 0.5 mL Respiratory Wash (nasal wash, nasal aspirate, bronchoalveolar lavage (BAL)/wash. Submit in sterile container frozen.

**Specimen Minimum Volume:** 0.2 mL wash or one swab

**Transport Temperature:**
- Varies Frozen (preferred) 28 days
- Refrigerated 7 days

CPT Code Information: 87633

**RETZ**

**RET Proto-Oncogene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred:
Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.
Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient
(preferred)
Frozen
Refrigerated

**CPT Code Information:** 81406- RET (ret proto-oncogene) (eg, Hirschsprung disease), full gene sequence

### RTA

**9275**

**Reticulin Antibodies, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86255-Screen; 86256-Titer (if appropriate);

### RTIC

**9108**

**Reticulocytes, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 48 hours
Ambient 24 hours

**CPT Code Information:** 85045

### FREB

**90331**

**Retinol Binding Protein**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial. Required: Fasting for at least 12 hours.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 90 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
RBP24
81783

Retinol-Binding Protein, 24 Hour, Urine

Specimen Requirements: Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL
Collection Instructions: 1. Collect urine for 24 hours. 2. No preservative. 3. Mix well before taking
5-mL aliquot. Additional Information: 1. 24-Hour volume is required. 2. See Urine
Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for
multiple collections.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 7 days
Frozen 7 days

RRBP
84447

Retinol-Binding Protein, Random, Urine

Specimen Requirements: Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL
Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 7 days
Frozen 7 days

G101
65588

Rhabdomyolysis and Myopathy Panel (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

CPT Code Information: 81401; 81404 x 3; 81405 x 4; 81406 x 7; 81407 x 2; 81408 x 3; 81479;

RHUT
603415

Rheumatoid Factor, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen
Volume: 0.6 mL

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

CPT Code Information: 86431
**Rhizopus nigricans, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For one allergen: 0.3 mL; For more than one allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Rhodotorula IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**Rhubarb (Rheum rhaponticum) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**Ribavirin, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. Spin down and separate serum from cells within 2 hours of draw. 3. Remove serum from serum gel tube if applicable. 4. Delay in removing serum may result in
falsely-decreased ribavirin concentrations.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 80299

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**Riboflavin (Vitamin B2), Plasma**

**Specimen Requirements:** Patient Preparation: Fasting-overnight (12-14 hours) (infants-draw prior to next feeding). Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Green top (heparin) Submission Container/Tube: Amber vial (T192) Specimen Volume: 0.5 mL Collection Instructions: 1. Place heparin collection tube on ice, keep covered. 2. Centrifuge and aliquot to amber vial 3. Freeze immediately

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Plasma Heparin Frozen (preferred) 14 days
- Refrigerated 7 days

**CPT Code Information:** 84252

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**Ribosome P Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 83516

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**Rice IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days
CPT Code Information: 86001

RICE

Rice, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

ROMA2

Risk Score, if Postmenopausal

Specimen Requirements: Only orderable as part of a profile. For more information see ROMA / Ovarian Malignancy Risk Algorithm.

Transport Temperature:
Serum Frozen (preferred) 84 days
Refrigerated 48 hours

ROMA1

Risk Score, if Premenopausal

Specimen Requirements: Only orderable as part of a profile. For more information see ROMA / Ovarian Malignancy Risk Algorithm.

Transport Temperature:
Serum Frozen (preferred) 84 days
Refrigerated 48 hours

FRISP

Risperidone (Risperdal) and 9-Hydroxyrisperidone

Specimen Requirements: Submit only 1 of the following specimens: Plasma Specimen Type: Plasma (Preferred) Container/Tube: Green-top (sodium heparin) tube(s). Specimen volume: 3 mL Collection Instructions: Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Specimen Type: Serum Container/Tube: Red-top tube, serum gel is not acceptable. Specimen volume: 3 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
Varies Refrigerated (preferred) 7 days
    Frozen 180 days
    Ambient 72 hours

**CPT Code Information**: 80342

**RNAP 83397**

**RNA Polymerase III Antibodies, IgG, Serum**

**Specimen Requirements**: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume**: 0.4 mL

**Transport Temperature**:
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information**: 83516

**RNP 81357**

**RNP Antibodies, IgG, Serum**

**Specimen Requirements**: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume**: 0.35 mL

**Transport Temperature**:
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information**: 86235

**ROMA 62661**

**ROMA Score (Ovarian Malignancy Risk Algorithm)**

**Specimen Requirements**: Patient Preparation: Specimens should not be collected from patients receiving therapy with high biotin doses (ie, >5 mg/day) until at least 8 hours following the last biotin administration. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume**: 0.5 mL

**Transport Temperature**:
- Serum Frozen (preferred) 84 days
- Refrigerated 48 hours

**CPT Code Information**: 86305-HE4, S; 86304-Cancer Ag 125 (CA 125), S;

**FROPI 57171**

**Ropivacaine, Serum/Plasma**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 987
Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL serum refrigerate in a plastic vial. Plasma Draw blood in a lavender-top (EDTA) or pink top tube(s). (Plasma gel tube is not acceptable.) Spin down and send 1 mL plasma refrigerate in plastic vial.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Varies Refrigerated (preferred) 28 days
Frozen 240 days

CPT Code Information: 80375

ROTA 8886
Rotavirus Antigen, Feces
Specimen Requirements: Supplies: Stool Collection Kit, Random (T635) Container/Tube: Preferred: Sterile stool container Acceptable: Swab Specimen Volume: 5-10 g Collection Instructions: Place specimen in a tightly sealing plastic bag.

Specimen Minimum Volume: 1 g

Transport Temperature:
Fecal Frozen (preferred) 7 days
Refrigerated 72 hours

CPT Code Information: 87425

MARS 82701
Rough Marsh Elder, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

RRRP 82723
Rough Pigweed, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Rubella Antibodies, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86003

Rubeola (Measles) Antibodies, IgG and IgM (Separate Determinations), Spinal Fluid

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.25 mL

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
CSF Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86762 x 2

Rufinamide, Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: SST Specimen Volume: 1 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. For sustained-release formulations ONLY, draw blood a minimum of 12 hours after last dose. 3. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

**CPT Code Information:** 80299

Russian Thistle, IgE
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**Rye Food IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

**Rye Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**Rye, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
**S100 Immunostain, Technical Component Only**

**Specimen Requirements:**
- **Supplies:** Immunostain Technical Only Envelope (T693)
- **Type:** Tissue Container/Tube: Immunostain Technical Only Envelope (T693)
- **Preferred:** 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY: Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**F100B Protein, Serum**

**Specimen Requirements:**
- Draw blood in a plain, red-top tube(s). Serum gel tube is acceptable.
- Allow specimen to clot at room temperature. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days
- Ambient 24 hours

**CPT Code Information:** 86316

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**Saccharomyces cerevisiae Antibody, IgA, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel Acceptable: Red top
- **Volume:** 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86671
GASCA 83023

Saccharomyces cerevisiae Antibody, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.50 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86671

FSFLE 57541

Safflower (Carthamus tinctorius) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

FSAG 57957

Sage (Artemisia spp.) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

FSGFE 57565

Sage (Salvia officinalis) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
**SALCA** 37061  
**Salicylate, Serum**  
**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top  
Volume: 0.5 mL  
Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.  
**Specimen Minimum Volume:** 0.25 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 7 days  
Frozen 28 days  
Ambient 72 hours  

**CPT Code Information:** 86003

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**SALL4** 71534  
**SALL4 Immunostain, Technical Component Only**  
**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)  
Specimen Type: Tissue  
Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block  
**Transport Temperature:**  
TECHONLY Ambient (preferred)  
Refrigerated  

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**FSALG** 57631  
**Salmon IgG**  
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.  
**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 7 days  

**CPT Code Information:** 86001

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**SALM** 82754  
**Salmon, IgE**

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Current as of October 16, 2018 7:53 pm CDT  
800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Salt Grass, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Sardine (Pilchard), IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

SCA 6 (CACNA1A) Repeat Expansion

Specimen Requirements: 8 mL whole blood collected in a lavender-top (EDTA) tube(s). Send EDTA whole blood at ambient temperature. Note: Collection date is required.

Specimen Minimum Volume: 6 mL

Transport Temperature:
Whole Blood EDTA  Ambient (preferred)  10 days
Refrigerated  10 days

CPT Code Information: 81401

FSCA1 91585

SCA1 (ATXN1) Repeat Expansion
Specimen Requirements: Specimen Type: Whole Blood Container/Tube: Lavender top (EDTA)
Specimen Volume: 8 mL Collection Instructions: Send 8 mL whole blood (lavender-top) EDTA tubes
Note: Collection date is required.
Specimen Minimum Volume: 6 mL
Transport Temperature:
Whole Blood EDTA  Ambient (preferred)  10 days
Refrigerated  10 days

CPT Code Information: 81401

FSCA3 91587

SCA3 (MJC/ATXN3) Repeat Expansion
Specimen Requirements: Specimen Type: Whole Blood Container/Tube: Lavender top (EDTA)
Specimen Volume: 8 mL Collection Instructions: Send 8 mL whole blood in original tube ambient
Specimen Minimum Volume: 6 mL
Transport Temperature:
Whole Blood EDTA  Ambient (preferred)  10 days
Refrigerated  10 days

CPT Code Information: 81401

SCLE 82716

Scale, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen
Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x
number of allergens) + 0.25 mL dead space
Transport Temperature:
Serum Refrigerated (preferred)  14 days
Frozen  90 days

CPT Code Information: 86003

SCALS 82259

Scallop, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Scantibodies Clinical Laboratory

Specimen Requirements: Varies This is a Miscellaneous Referral Test. For specific requirements, please refer to the referred tests list under the catalog tab on the MML Website (external) or the Referral Catalog (CRM) (internal). If unable to find the correct test, request forms, or specimen requirements, contact Customer Service at 1-800-533-1710 or 6-5700. NOTE: Provide when ordering
1. Test name 2. Performing lab code 3. Specimen Type 4. Required consent and/or requisitions form including patient specific information, i.e. consent forms, clinical information, family history. Please contact Customer Service at 1-800-533-1710 or 6-5700 for required forms.

Specimen Minimum Volume: Varies

Transport Temperature:
Varies

CPT Code Information: Varies

Schistosoma Exam, Urine

Specimen Requirements: Collection Container/Tube: Clean, plastic urine collection container Submission Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Collect a random urine specimen between the hours of 12 noon and 3 p.m. 2. No preservative. Additional Information: A 24-hour urine collection is also acceptable.

Specimen Minimum Volume: 5 mL

Transport Temperature:
Urine Refrigerated 7 days

CPT Code Information: 87210; 87015;

Schistosoma species Antibody, IgG, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

Specimen Minimum Volume: 0.50 mL

Transport Temperature:
Serum Refrigerated (preferred) 30 days
CPT Code Information: 86682

**SCL70 80178**

Scl 70 Antibodies, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 86235

**FSCN4 75263**

SCN4A (Myotonia) DNA Sequencing Test

**Specimen Requirements:** Draw blood in a lavender-top (EDTA) tube(s) and send 8 mL of whole blood. Ship Ambient. Note: Collection date and informed consent are required.

**Specimen Minimum Volume:** 6 mL

**Transport Temperature:**

- Whole Blood EDTA Ambient (preferred) 10 days
- Refrigerated 10 days

CPT Code Information: 81406

**SDHBZ 37442**

SDHB Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Varies Ambient (preferred)
- Frozen
- Refrigerated

CPT Code Information: 81405-SDHB (succinate dehydrogenase complex, subunit B, iron sulfur) (eg. hereditary paraganglioma), full gene sequence; 81403-SDHB duplication/deletion;
SDHB

SDHB Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

SDHP

SDHB, SDHC, SDHD Gene Panel

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 81403 x 2; 81404 x 2; 81405 x 2;

SDHCZ

SDHC Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Ambient
(preferred)
Refrigerated

**CPT Code Information:** 81405-SDHC (succinate dehydrogenase complex, subunit C, integral membrane protein, 15kDa) (eg, hereditary parganglioma-pheochromocytoma syndrome), full gene sequence; 81404-SDHC duplication/deletion ;
SDHDZ

**SDHD Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81404-SDHD (succinate dehydrogenase complex, subunit D, integral membrane protein) (eg, hereditary paraganglioma), full gene sequence; 81403-SDHD duplication/deletion;

SEAFP

**Seafood Allergen Profile**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.7 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003 x 5

SEAS

**Seasonal Inhalants Allergen Profile**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003 x 10

SECOS

**Secobarbital, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.5 mL Collection Instructions: Spin down within 2 hours of draw.
**Secretin**

**FSEC**

Specimen Minimum Volume: 0.6 mL

Transport Temperature:
- Serum Red Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

CPT Code Information: 80345; G0480 (if appropriate);

**Specimen Requirements:** Container/Tube: Special tube containing G.I. preservative (MML Supply T125) Specimen Volume: 3 mL Collection Instructions: 1. Patient should fast for 10 to 12 hours prior to collection. 2. Collect 10 mL of blood in special tube. 3. Specimen should be separated immediately and plasma frozen as soon as possible. Additional Information: Antacid medications and medications that affect intestinal motility should be discontinued, if possible, for at least 48 hours prior to collection.

Specimen Minimum Volume: 1 mL

Transport Temperature:
- GI Plasma Frozen 30 days

CPT Code Information: 83519

**Sedative Hypnotic Panel, Urine-Forensic**

**FSHPU**

Specimen Minimum Volume: 5 mL

Transport Temperature:
- Urine Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 72 hours

CPT Code Information: 80307

**Selenium, Blood**

**SEWB**

Specimen Minimum Volume: 0.3 mL

Transport Temperature:

Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: 0.8 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.
Whole blood  Refrigerated (preferred)  28 days
  Ambient  28 days
  Frozen  28 days

CPT Code Information: 84255

**Selenium, Serum**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium, iodine, and barium are known to interfere with most metals tests. If gadolinium-, iodine, or barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: 6-mL Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 0.8 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoid transferring the cellular components of blood. Do not insert a pipette into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
  Serum Refrigerated (preferred)  28 days
  Ambient  28 days
  Frozen  28 days

CPT Code Information: 84255

**Semen Analysis**

**Specimen Requirements:** Patient Preparation: Patient should have 2 to 7 days of sexual abstinence at the time of semen collection for accurate results. Supplies: Semen Analysis Kit - Dilution Media (T178) Specimen Volume: Total ejaculate Collection Instructions: 1. After collection, allow the specimen to liquefy for 1 hour. 2. Measure the volume. 3. Place the specimen into media within 1 hour.

**Specimen Minimum Volume:** Total ejaculate

**Transport Temperature:**
  Semen Ambient

CPT Code Information: 89310

**Semen Analysis with Strict Morphology**

**Specimen Requirements:** Patient Preparation: Patient should have 2 to 7 days of sexual abstinence at the time of semen collection for accurate results. Supplies: Semen Analysis Kit - Dilution Media (T178) Specimen Volume: Total ejaculate Collection Instructions: 1. After collection, allow the specimen to liquefy for 1 hour. 2. Measure the volume. 3. Place the specimen into media within 1 hour.
**Specimen Minimum Volume:** A minimum count is needed. Lab will determine.

**Transport Temperature:**
Semen Ambient 36 hours

**CPT Code Information:** 89310-Semen Analysis; 89398-Strict Criteria Sperm Morphology; If both components performed.; 89322-Semen Analysis with Strict Morphology;

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**SMFL 82858**

**Seminal Fluid, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**MIC 801659**

**Sensitivity, MIC (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies

**CPT Code Information:** 87186

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**SEPTZ 35548**

**SEPT9 Gene, Mutation Screen**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies
(preferred)
Frozen
Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure
Sequential Maternal Screening, Part 1, Serum

**Specimen Requirements:** Approval to send specimen for first-trimester screening is required and may take up to 5 business days to complete. Nuchal translucency (NT) measurements are only accepted from NT-certified sonographers. Do not send specimen to Mayo Medical Laboratories if the sonographer is not NT-certified or before completing the application process. See Maternal Screening: Sonographer Approval Process link or complete the NT/CRL Data for First Trimester/Sequential Maternal Screening form in Special Instructions. When Part 1 is negative, Part 2 must be completed in order to receive an interpretable result. If collecting a second-trimester specimen is expected to be difficult, order first-trimester screening instead (see 1STT / First Trimester Maternal Screen). The ultrasound and blood draw must be completed within a gestational window of 10 weeks, 0 days and 13 weeks, 6 days, which corresponds to a crown-rump length (CRL) range of 31 to 80 mm.

**Container/Tube:** Preferred: Red top Acceptable: Serum gel

**Specimen Volume:** 1 mL

**Collection Instructions:** Immediately spin down.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 84163

Sequential Maternal Screening, Part 2, Serum

**Specimen Requirements:** Sequential maternal screening is a 2-part test that includes a first-trimester sample (SEQU / Sequential Maternal Screening, Part 1, Serum) and a second-trimester sample (SEQF / Sequential Maternal Screening, Part 2, Serum). Do not order this test unless you have already ordered test SEQU / Sequential Maternal Screening, Part 1, Serum. If a standalone second-trimester screen is desired, order QUAD / Quad Screen (Second Trimester) Maternal, Serum. Draw blood between 15 weeks, 0 days and 22 weeks, 6 days. Do not draw blood after performing amniocentesis, as that may lead to an artificially increased serum alpha-fetoprotein level and unreliable results.

**Container/Tube:** Preferred: Red top Acceptable: Serum gel

**Specimen Volume:** 1 mL

**Collection Instructions:** Spin down immediately.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 81511; 82105 (if appropriate); 82677 (if appropriate); 84702 (if appropriate); 86336 (if appropriate);
**EC 45106**

**Serologic Agglut Method 2 Ident (Bill Only)**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
Varies

**CPT Code Information:** 87147

**SIDC 66697**

**Serologic Agglut Method 4 Ident (Bill Only)**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
Varies

**CPT Code Information:** 87147

**HTR2V 97398**

**Serotonin Receptor Genotype (HTR2A and HTR2C)**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole bloodContainer/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Saliva Patient Preparation: Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection. Supplies: DNA Saliva Collection Kit (T786) Container/Tube: Saliva Swab Collection Kit (T786: fees apply) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
Varies

**CPT Code Information:** 0033U-Unlisted molecular pathology procedure

**FSRA 57819**

**Serotonin Release Assay (SRA), LMWH**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Frozen 180 days
Serotonin Release Assay, Unfractionated Heparin

Specimen Requirements: Collection Container/Tube: Preferred: Red Top Acceptable: Serum gel
Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Frozen 180 days

CPT Code Information: 86022

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Serotonin Release Assay, Unfractionated Heparin

Specimen Requirements: Specimen Type: Serum Container/Tube: Red/ SST acceptable
Specimen Volume: 5 mL Collection Instruction: Draw blood in a plain, red-top tube, serum gel tube is acceptable. Spin down and remove serum from clot. Ship 5 mL of serum refrigerated in a plastic vial.
Note: Date of birth required.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Serum Refrigerated (preferred) 7 days
Frozen

CPT Code Information: 86022

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Serotonin Transporter Genotype, Blood

Specimen Requirements: Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA)
Specimen Volume: 3 mL

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Whole Blood EDTA Ambient (preferred)
Refrigerated

CPT Code Information: 81479 - Unlisted molecular pathology procedure

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Serotonin Transporter Genotype, Saliva

Specimen Requirements: Multiple saliva genotype tests can be performed on a single specimen after a single extraction. See Multiple Saliva Genotype Tests in Special Instructions for a list of tests that can be ordered together. Supplies: DNA Saliva Collection Kit (T651) Container/Tube: Oragene
DNA Self-Collection Kit (T651: fees apply) Specimen Volume: Full tube Collection Instructions: 1. Fill tube to line. 2. Send specimen in original container per kit instructions.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Saliva Ambient

**CPT Code Information:** 81479 - Unlisted molecular pathology procedure

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**SERU**

**Serotonin, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect urine for 24-hours. 2. Add 25 mL of 50% acetic acid as preservative at start of collection. 3. Refrigerate specimen during collection. 4. Patients should not eat avocados, bananas, butternuts, cantaloupe, dates, eggplant, grapefruit, hickory nuts, honeydew melon, kiwifruit, melon, nuts, pecans, pineapple, plantains, plums, tomatoes, or walnuts, which are high in serotonin for 48 hours before or during collection. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 2.5 mL

**Transport Temperature:**
- Urine Frozen (preferred)  14 days
- Refrigerated  7 days

**CPT Code Information:** 84260

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**SERWB**

**Serotonin, Blood**

**Specimen Requirements:** Supplies: Serotonin Tube (T259) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Serotonin tube (T259) containing ascorbic acid Specimen Volume: 2.5 mL Collection Instructions: 1. Immediately after the venipuncture, transfer approximately 2.5 mL of whole blood to serotonin tube and mix well (any volume of whole blood from 1.5-3 mL is acceptable). 2. Immediately freeze specimen.

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Whole Blood EDTA Frozen (preferred)  90 days
- Refrigerated  24 hours

**CPT Code Information:** 84260

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**SER**

**Serotonin, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2.5 mL Collection Instructions: Spin down as soon as blood has clotted. Additional Information: Medications that may affect serotonin concentrations include lithium, monoamine oxidase inhibitors, methyldopa, morphine, and reserpine.

**Specimen Minimum Volume:** 1.1 mL
Transport Temperature:
Serum Frozen (preferred) 90 days
Refrigerated 24 hours

CPT Code Information: 84260

SERPZ
63128

SERPINA1 Gene, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Varies Refrigerated
(preferred)
Ambient
Frozen

CPT Code Information: 81479

FSERT
91345

Sertraline (Zoloft) and Desmethylsertraline

Specimen Requirements: Submit only 1 of the following specimens: Plasma Specimen Type: Plasma Container/Tube: Green Top Specimen Volume: 2 mL Collection Instructions: Draw blood in a green-top (sodium heparin) tube, plasma gel tube is not acceptable. Spin down and send 2 mL of sodium heparin plasma refrigerated in a plastic vial. Serum Specimen Type: Serum Container/Tube: Red Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain, red-top tube, serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 1.2 mL

Transport Temperature:
Varies Refrigerated (preferred) 7 days
Frozen 180 days
Ambient 72 hours

CPT Code Information: 80332

FSES SG
57682

Sesame Seed IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Sesame Seed, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86001
**Transport Temperature:**
Varies

**CPT Code Information:** 81408; 81405; 81406; 81404; 81479;

**Sex Chromosome Determination, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin (H and E)-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin (H&E) stained slide

**Transport Temperature:**
Tissue Ambient (preferred)
Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 – Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**SHBG**

**Sex Hormone-Binding Globulin (SHBG), Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 60 days

**CPT Code Information:** 84270

**SRYF**

**Sex-Determining Region Y, Yp11.3 Deletion, FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20-25 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also
accepted. Provide gestational age at the time of amniocentesis. 2. Discard the first 2 mL of amniotic fluid. Additional Information: 1. Place the tubes in a Styrofoam container (T329). 2. Fill remaining space with packing material. 3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 4. Bloody specimens are undesirable. 5. If the specimen does not grow in culture, you will be notified within 7 days of receipt. 6. Results will be reported and also telephoned or faxed, if requested.

Specimen Type: Autopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer’s solution, or normal saline Specimen Volume: 4 mm diameter Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis. Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Chorionic villus Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20-25 mg Collection Instructions: 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer chorionic villi to a Petri dish containing transport medium (T095). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua. Specimen Type: Fixed cell pellet Container/Tube: Sterile container with a 3:1 fixative (methanol:glacial acetic acid) Specimen Volume: Entire specimen Specimen Type: Products of conception or stillbirth Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 1 cm(3) of placenta (including 20-mg of chorionic villi) and a 1-cm(3) biopsy specimen of muscle/fascia from the thigh Collection Instructions: If a fetus cannot be specifically identified, collect villus material or tissue that appears to be of fetal origin. Additional Information: Do not send entire fetus. Specimen Type: Skin biopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 4 mm diameter Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis.

**Specimen Minimum Volume:** Amniotic Fluid: 5 mL/Autopsy, Skin Biopsy: 4 mm/Blood: 2 mL/Chorionic Villi: 5 mg/Fixed Cell Pellet: 1 pellet/Products of Conception: 1 cm(3)

**Transport Temperature:**

Varies

Refrigerated

(preferred)

Ambient

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88273 w/modifier 52-Chromosomal in situ hybridization, less than 10 cells (if appropriate); 88273-Chromosomal in situ hybridization, 10-30 cells (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate) ; 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); ; ;

**SZDIA 64750**

**Sezary Diagnostic Flow Cytometry, Blood**

**Specimen Requirements:** Specimen Type: Blood Collection Container/Tube: Preferred: Yellow top (ACD) Acceptable: EDTA, Heparin Specimen Volume: 6 mL Collection Instructions: 1. Do not transfer blood to other containers. 2. Label specimen as blood.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
**SZMON 64749**

**Sezary Monitoring Flow Cytometry, Blood**

**Specimen Requirements:** Specimen Type: Blood Collection Container/Tube: Preferred: Yellow top (ACD) Acceptable: EDTA, Heparin Specimen Volume: 6 mL Collection Instructions: 1. Do not transfer blood to other containers. 2. Label specimen as blood.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

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<tr>
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<td>72 hours</td>
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**CPT Code Information:** 88184-Flow cytometry; first cell surface, cytoplasmic or nuclear marker x 1; 88185-Flow cytometry; additional cell surface, cytoplasmic or nuclear marker (each) ; 88188-Flow Cytometry Interpretation, 9 to 15 markers (if appropriate); 88189-Flow Cytometry Interpretation, 16 or more markers (if appropriate);

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**SF1 72121**

**SF-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Specimen Minimum Volume:** N/A

**Transport Temperature:**

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<tr>
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**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**SHWL 82747**

**Sheep Wool, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

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**Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 1011**
STFRP 35148

**Shiga Toxin, Molecular Detection, PCR, Feces**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by shiga toxin DNA is unlikely. Submit only 1 of the following specimens: Supplies: C and S Vial (T058) Stool container, Small (Random), 4 oz Random (T288) Preferred: Specimen Type: Preserved stool Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of nonnutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S) (T058) Specimen Volume: Representative portion of stool Collection Instructions: 1. Collect fresh stool and submit in container with transport medium. 2. Place stool in preservative within 2 hours of collection. Specimen Stability Information: Ambient (preferred) <7 days/ Refrigerated <7 days/ Frozen <7 days Acceptable: Specimen Type: Unpreserved stool Container/Tube: Stool container (T288) Specimen Volume: Representative portion of stool Collection Instructions: Collect fresh stool and submit in container. Specimen Stability Information: Refrigerated (preferred) <7 days/ Frozen <7 days

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Fecal Varies 7 days

**CPT Code Information:** 86003

SRW 82667

**Short Ragweed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

SCADZ 35544

**Short-Chain Acyl-CoA Dehydrogenase (SCAD) Deficiency, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated
Specimen Type: Cultured fibroblasts Container/Tube: T-25 flask Specimen Volume: 2 Full flasks
Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies:
Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches-3 mm diameter

**Transport Temperature:**
Varies

**CPT Code Information:** 81405-ACADS (acyl-CoA dehydrogenase C-2 to C-3 short chain) (eg, short chain acyl-CoA dehydrogenase deficiency), full gene sequence

**FSHOX**

**SHOX-DNA-DxTM**

**Specimen Requirements:** 3 mL whole blood in EDTA (lavender top tube). Yellow top (ACD) is acceptable. Ship ambient. Required: New York Clients-Informed consent is required. Please document on the request form or electronic order that a copy is on file. An Informed Consent for Genetic Testing is available in Special Instructions.

**Specimen Minimum Volume:** Adult 3 mL Peds 1 mL

**Transport Temperature:**
Whole Blood EDTA  Ambient (preferred)  7 days
Refrigerated  14 days

**CPT Code Information:** 81479

**FSHRG**

**Shrimp IgG**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  28 days
Frozen  365 days
Ambient  7 days

**CPT Code Information:** 86001

**SHRI**

**Shrimp, IgE**

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**STAT6 70554**

**Signal Transducer and Activator of Transcription 6 (STAT6), Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**FSIL 80771**

**Silicon, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum: Draw blood in a trace metal free, royal blue top, no additive tube(s). (Serum gel tube is not acceptable.) Promptly centrifuge and separate 2 mL into an acid washed plastic screw capped vial (MML supply number T619). Ship refrigerate. Plasma Draw blood in a royal blue top, trace metal free; EDTA tube(s). (Plasma gel tube is not acceptable.) Promptly centrifuge and separate 2 mL into an acid washed plastic screw capped vial (MML supply number T619). Ship refrigerate.

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 21 days
  - Ambient 14 days
  - Frozen 14 days

**CPT Code Information:** 84285

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**SILK 82771**

**Silk, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Silver Birch, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Sinemet, Serum/Plasma

Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 2 mL of serum frozen in a preservative-free plastic vial. Specimen must be frozen immediately or results will be compromised. Plasma Draw blood in a lavender-top or pink-top (EDTA) tube(s). (Plasma gel tube is not acceptable.) Spin down and send 2 mL of EDTA plasma frozen in a preservative-free plastic vial. Specimen must be frozen immediately or results will be compromised.

Specimen Minimum Volume: 0.7 mL

Transport Temperature:
Varies Frozen 30 days

CPT Code Information: 80375

Sirolimus, Blood

Specimen Requirements: Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Draw blood immediately before a scheduled dose. 2. Do not centrifuge. 3. Send specimen in original tube. Additional Information: Therapeutic range applies to trough specimen drawn immediately prior to a.m. dose.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred) 28 days
Ambient  28 days
Frozen     28 days

CPT Code Information: 80195

**Skeletal Muscle Channelopathy Panel (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

CPT Code Information: 81403; 81406 x 2; 81479;

**Slide Review in Molecular Genetics (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

CPT Code Information: 88381

**Sm Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top
Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 86235

**SMAD4 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant
Specimen Volume: 3 mL
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
**CPT Code Information:** 81406 SMAD4 (SMAD family member 4) (eg, hemorrhagic telangiectasia syndrome, juvenile polyposis), full gene sequence; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

**Small Lymphocytic Lymphoma, FISH, Tissue**

**Specimen Requirements:** Provide a reason for referral and pathology report with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Lymph node Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide. Specimen Type: Solid tumor Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin (H&E) stained-stained slide.

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**Smith-Lemli-Opitz Screen, Plasma**

**Specimen Requirements:** Collection Container/Tube: Preferred: Green top (sodium or lithium heparin) Acceptable: Lavender top (EDTA), pearl white top (EDTA/gel tubes), yellow top (ACD A) or yellow top (ACD B) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Centrifuge specimen and aliquot plasma. Send plasma frozen.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Frozen
- Refrigerated

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**CPT Code Information:** 82542

**SMA 6284**

**Smooth Muscle Antibodies, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top

Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86255-Screen; 86256-Titer (if appropriate);

**SMOTH 70552**

**Smoothelin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**FCRNS 57961**

**Smut Corn (Ustilago maydis) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 28 days

**CPT Code Information:** 86003

**SNAIL 82344**

**Snail, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested

Additional Information: Designate specific allergens from
the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**NAU 8525 Sodium, 24 Hour, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL urine tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Add 25 mL of 50% acetic acid as preservative at start of collection. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days
Ambient 7 days

**CPT Code Information:** 84300

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**NABF 8039 Sodium, Body Fluid**

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material. Additional Information: Indicate specimen source.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Body Fluid Refrigerated 14 days

**CPT Code Information:** 84302

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**RNAUR 84522 Sodium, Random, Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 1019
**NACCL 81692**

**Sodium, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Ambient 14 days

**CPT Code Information:** 84300

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**SOLEF 86310**

**Sole, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 84295

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**CAPN 35594**

**Solid Tumor-Targeted Cancer Gene Panel by Next-Generation Sequencing**

**Specimen Requirements:** Preferred: Specimen Type: Tissue Container/Tube: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block. Acceptable: Specimen Type: Tissue Container/Tube: Slides Specimen Volume: 1 stained and 10 unstained Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained, non-baked slides with 5-micron thick sections of the tumor tissue. Acceptable: Specimen Type: Cytology Container/Tube: Cytology slide (Direct smears or ThinPrep) Specimen Volume: 1-2 slides (stained and coverslipped) with a minimum of 5,000 total nucleated cells Collection Instructions: Submit 1-2 slides stained and coverslipped. Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 8 unstained, non-baked slides with 5-microns thick sections of the tumor tissue with at least 6 mm(2) area of tissue (can be over multiple slides) and 20% tumor nuclei, 1 stained and coverslipped cytology slide with at least 5,000 total nucleated cells and at least 20% tumor cells.

**Transport Temperature:**
SFM 6600

**Soluble Fibrin Monomer**

**Specimen Requirements:** Only orderable as part of a profile. For more information see THRMP / Thrombophilia Profile; BDIAL / Bleeding Diathesis Profile, Limited; or PROCT / Prolonged Clot Time Profile.

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85366

FSFM 58015

**Soluble Fibrin Monomer**

**Specimen Requirements:** Draw 4.5 mL 3.2% Sodium Citrated whole blood. Spin down and send 1.5 mL of platelet-poor plasma frozen in plastic vial. STRICT FROZEN â€” Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85366

FSLAA 57735

**Soluble Liver Antigen (SLA) Autoantibody**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 8 days

Frozen 28 days

Ambient 48 hours

**CPT Code Information:** 83520

STFR 84283

**Soluble Transferrin Receptor (sTfR), Serum**

**Specimen Requirements:**

- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81445-Targeted genomic sequence analysis panel, solid organ neoplasm; Slide Review; 88381-Microdissection, manual;
**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Frozen (preferred) 90 days
- Refrigerated 7 days
- Ambient 72 hours

**CPT Code Information:** 84238

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**SLC1V 97399**

**Solute Carrier Organic Anion Transporter Family Member 1B1 (SLCO1B1) Genotype, Statin**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
- Varies

**CPT Code Information:** 81328

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**FSOMA 90172**

**Somatostatin**

**Specimen Requirements:** Specimen Type: Plasma Container/Tube: EDTA tube containing GI preservative: EDTAGI Specimen Volume: 1 mL Collect 10 mL of blood in special tube containing G.I. Preservative (MML supply number T125). Specimen should be separated and 3 mL plasma frozen as soon as possible. Patient preparation: 1. Patient should be fasting 10 – 12 hours prior to collection. 2. Patient should not be on any medications that affect insulin secretion or intestinal motility, if possible for at least 48 hours prior to collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- GI Plasma: Frozen 180 days

**CPT Code Information:** 84307
**Somatostatin (SOMATO) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**Somatostatin Receptor 2 (SSTR2), Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**Sotalol (Betapace)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

**CPT Code Information:** 80375

**SOX10 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693)
SOX11 Immunostain, Bone Marrow, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 Unstained positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick; B5 fixed, decalcified, paraffin-embedded bone marrow tissue. Acceptable: B5 fixed, decalcified, paraffin-embedded bone marrow tissue block.

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

SOX11 Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block.

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Soybean IgG

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
FSYG4
Soybean IgG4

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days

    Frozen 365 days
    Ambient 7 days

CPT Code Information: 86001

SOY
Soybean, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days

    Frozen 90 days

CPT Code Information: 86003

SMAIL
Special Mail

Transport Temperature:
Varies

SPAGR
Special Red Cell Antigen Typing

Specimen Requirements: Container/Tube: 6 mL pink (EDTA) Submission Container/Tube: Original tube Collection Instructions: Send specimen in original tube.

Specimen Minimum Volume: Pediatric: 3 mL blood in 6 mL (pink) EDTA tube

Transport Temperature:
Whole Blood EDTA Refrigerated (preferred) 7 days

    Ambient 72 hours

CPT Code Information: 86003
CPT Code Information: 86905-Each red cell antigen typing (if more than one ordered)

**SGBF**

**8275**

**Specific Gravity, Body Fluid**

**Specimen Requirements:** Collection Container/Tube: Sterile container Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Additional Information: Indicate specimen source. Test is appropriate for all body fluids except urine.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid Refrigerated (preferred) 7 days
- Frozen 7 days

CPT Code Information: 84315

**SGU**

**9318**

**Specific Gravity, Urine**

**Specimen Requirements:** Container/Tube: 16x100 mm polypropylene tube Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. Keep specimen frozen.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Frozen (preferred) 7 days
- Refrigerated 7 days

CPT Code Information: 81003

**SPECI**

**35552**

**Specimen Source Identification**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Tissue block or slide Collection Instructions: 1. Submit formalin-fixed, paraffin-embedded (FFPE) tissue block (preferred) or 4 to 10 unstained sections (each 5-microns thick) plus 1 slide stained with hematoxylin and eosin. 2. The number of unstained sections required depends on the amount of tissue that can be used for analysis. 3. For very small tissue fragments, 10 sections are recommended; for large tissue fragments, 4 sections are generally sufficient. 4. If known and unknown specimens are within the same block, include labeled hematoxylin-and-eosin slide identifying the known and unknown specimens. 5. Specimen ID tests involving very small fragments of tissue, including most floaters, are performed at the discretion of the reviewing pathologist. Cases involving floaters are usually rejected due to an insufficient amount of the floater tissue.

**Specimen Minimum Volume:** Blood: 0.5 mL Tissue: send paraffin-embedded whole tissue or 4x5 micron-thick sections plus 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
- Varies
- Varies
**CPT Code Information:** 81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells; ; Added as needed:: 81266 each additional specimen (eg additional cord blood donor, additional fetal samples from different cultures, or additional zygosity in multiple birth pregnancies); ;

**SS1PO**

**SpecStain Grp I, microorg, ProfOnly (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

- Varies Ambient  
  (preferred)
- Refrigerated

**CPT Code Information:** 88312-26

**SS3PO**

**SpecStain Grp III, enzyme, ProfOnly (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

- Varies Ambient  
  (preferred)
- Refrigerated

**CPT Code Information:** 88319-26

**HCFPC**

**SpecStain, frozen (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

- Varies Ambient  
  (preferred)
- Refrigerated

**CPT Code Information:** 88314

**SS2PC**

**SpecStain, Grp II, other (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**

- Varies Ambient  
  (preferred)
- Refrigerated
CPT Code Information: 88313

**SS2PO**

SpecStain, Grp II, other, Prof Only (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Refrigerated

CPT Code Information: 88313-26

**SS3PC**

SpecStain, Grp III, enzyme (Bill Only)

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Refrigerated

CPT Code Information: 88319

**FSPNG**

Spinach IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

CPT Code Information: 86001

**SPIN**

Spinach, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

SMNCS 65574

Spinal Muscular Atrophy Carrier Screening by Deletion/Duplication Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Filter paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Supplies: Fibroblast Biopsy Transport Media (T115) Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Supplies: Muscle Biopsy Kit (T541) Specimen Type: Tissue biopsy Collection Instructions: Prepare and transport specimen per instructions in Muscle Biopsy Specimen Preparation Sheet in Special Instructions. Additional Information: Muscle Biopsy Shipping Kits (T541) are available. Specimen Volume: 10-80 mg Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated Additional Information: To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate.

Specimen Minimum Volume: Blood: 1 mL Tissue Biopsy: 200 mg

Transport Temperature: Varies Varies

CPT Code Information: 81401; 88233 (if appropriate); 88240 (if appropriate);

SMNDX 65575

Spinal Muscular Atrophy Diagnostic Assay by Deletion/Duplication Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

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Additional Information: To ensure a minimum DNA amount and concentration, the preferred blood volume must be submitted. Testing may be canceled if the specimen supplied is inadequate. Prenatal Specimens Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Submit only 1 of the following specimens: Specimen Type: Amniotic fluid Container/Tube: Preferred: Screw-capped, sterile centrifuge tubes Acceptable: T-25 flasks of confluent cultured cells Specimen Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: Preferred: 15-mL tube containing 15 mL of transport media Acceptable: T-25 flasks of confluent cultured cells Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Specimen Type: Blood spot Supplies: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Card-Blood Spot Collection Filter paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 1 mL Amniotic Fluid: 10 mL Chorionic villi: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81401; 88235 (if appropriate); 88240 (if appropriate); 88233 (if appropriate); 88240 (if appropriate); 81265 (if appropriate); 35554 SPNKZ

**SPINK1 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Varies (preferred)

Frozen

Refrigerated

**CPT Code Information:** 81404-SPINK1 (serine peptidase inhibitor, Kazal type 1) (eg, hereditary pancreatitis), full gene sequence

35542 SBULB

**Spinobulbar Muscular Atrophy (Kennedy Disease), Molecular Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL

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800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81401-AR (androgen receptor) (eg, spinal and bulbar muscular atrophy, Kennedy disease, X chromosome inactivation), characterization of alleles (eg, expanded size or methylation status)

### Sporothrix Antibody, Serum

**SSP 9673**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL Collection Instructions: Do not collect from a line.

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Frozen 14 days

**CPT Code Information:** 86671

### Sporothrix Antibody, Spinal Fluid

**SSPC 81532**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86671

### Spotted Fever Group Antibody, IgG and IgM, Serum

**SFGP 83679**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86757 x 2
**Spruce, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**Squamous Cell Carcinoma Antigen, Serum**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s) or serum gel tube(s). Allow serum to clot completely at room temperature. Spin down and send 2 mL serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Frozen (preferred) 120 days
  - Refrigerated 120 days
  - Ambient 48 hours

**CPT Code Information:** 86316

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**Squash, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

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**Squid, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003
number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

Frozen 90 days

**CPT Code Information:** 86003

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**FSRP**

**SRP**

**Specimen Requirements:** Submit only 1 of the following: Serum Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerate in plastic vial. Plasma Draw blood in a lavender-top (EDTA) tube(s). Spin down and send 1 mL of EDTA plasma refrigerate in plastic vial.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Varies Refrigerated (preferred) 7 days

Frozen 180 days

Ambient 7 days

**CPT Code Information:** 83516

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**SSAB**

**SS-A and SS-B Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86235 x 2

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**SSA**

**SS-A/Ro Antibodies, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days

Frozen 21 days

**CPT Code Information:** 86235
SSB
81359
SS-B/La Antibodies, IgG, Serum

Specimen Requirements:
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.35 mL

Transport Temperature:
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

CPT Code Information: 86235

STLP
83154
St. Louis Encephalitis Antibody, IgG and IgM, Serum

Specimen Requirements:
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 86653 x 2

STLPC
83916
St. Louis Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid

Specimen Requirements:
- Container/Tube: Sterile vial
- Specimen Volume: 0.5 mL
- Additional Information: This test is not available for specimens originating in New York.

Specimen Minimum Volume: 0.2 mL

Transport Temperature:
- CSF Refrigerated (preferred) 14 days
- Frozen 14 days

CPT Code Information: 86653 x 2

ST2S
61723
ST2, Serum

Specimen Requirements:
- Collection Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 1 mL

Specimen Minimum Volume: 0.2 mL

Transport Temperature:
- Serum Red Frozen (preferred) 90 days
- Refrigerated 7 days
- Ambient 72 hours

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CPT Code Information: 83006

FSTAB

Stachybotrys chartarum/atra IgE
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 0.5 mL
Transport Temperature:
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

CPT Code Information: 86003

FSPII

Stachybotrys Panel II
Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume: 1.0 mL
Transport Temperature:
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

CPT Code Information: 86001/Allergen specific IgG; quantitative or semiquantitative; 86003/Allergen specific IgE; quantitative or semiquantitative; 83520/not otherwise specified;

STEM

Stemphyllium, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

STER

Sterols, Plasma
Specimen Requirements: Collection Container/Tube: Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA), pearl white top (EDTA/gel tubes), yellow top (ACD A) or yellow top (ACD B) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Centrifuge specimen and aliquot plasma. Send plasma frozen.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**

Plasma Frozen (preferred) 90 days

Refrigerated 90 days

**CPT Code Information:** 82542

### Stinging Insects Allergen Profile

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.8 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

Frozen 90 days

**CPT Code Information:** 86003 x 5

### STK11 Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Varies Ambient (preferred)

Frozen

Refrigerated

**CPT Code Information:** 81405-STK11 (serine/threonine kinase 11) (eg, Peutz-Jeghers syndrome), full gene sequence; Hereditary Colon Cancer CGH Array; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

### Strawberry IgG

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.
Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 7 days

**CPT Code Information:** 86001

### Strawberry, IgE

**STBY 82676**

**Specimen Requirements:**
- Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Specimen Volume: 0.5 mL for each 5 allergens requested
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

### Streptococcal Antibodies Profile

**SABP 86537**

**Specimen Requirements:**
- Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 14 days
  - Ambient 7 days

**CPT Code Information:** 86060-Antistreptolysin O, titer; 86215-Deoxyribonuclease, antibody;

### Streptococcus pneumoniae Antigen, Spinal Fluid

**SPNC 89971**

**Specimen Requirements:**
- Container/Tube: Sterile vial
- Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
  - Frozen 14 days
**Streptococcus pneumoniae Antigen, Urine**

**Specimen Requirements:** Supplies: Urine Tubes, 10 mL (T068) Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 2 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. 3. Excessively bloody or very turbid specimens containing protein, cells, or particulates will be cancelled as they can inhibit the function of the test. 4. Centrifuging to remove particulates is not approved. 5. Specimens with any dyes or unnatural color are not acceptable and will be cancelled.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 24 hours

**Streptococcus pneumoniae IgG Antibodies, 23 Serotypes, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**Striational (Striated Muscle) Antibodies, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**Strict Criteria Sperm Morphology for Infertility Diagnosis and**
Treatment, Semen

Specimen Requirements: Semen specimen must arrive within 24 hours of collection. Send specimen Monday through Thursday only and not the day before a holiday. If holiday falls on a Saturday, holiday will be observed on the preceding Friday. Sunday holidays are observed on the following Monday. Specimen should be collected and packaged as close to shipping time as possible. Laboratory does not perform testing on weekends. Container/Tube: Semen Analysis Kit (T178) Collection Instructions: Patient should have 2 to 7 days of sexual abstinence at the time of semen collection for accurate results. Specimen Volume: Total ejaculate Additional Information: Specimen volume is required.

Specimen Minimum Volume: A minimum count is needed. Lab will determine.

Transport Temperature:
Semen Ambient

CPT Code Information: 89398

MSTC1
35184

Strict Criteria Sperm Morphology for Infertility Diagnosis and Treatment, Semen

Specimen Requirements: Patient Preparation: Patient should have 2 to 7 days of sexual abstinence at the time of semen collection for accurate results. Container/Tube: Slides Specimen Volume: 2 slides-10 microL of liquefied semen on each slide Collection Instructions: 1. If sperm concentration is <10 million/mL, centrifuge the specimen at 300 x G for 10 minutes before making slides. 2 Label 2 frosted slides in pencil with the patient's first and last name and the date of specimen collection. No adhesive labels. 3. Allow the semen to liquefy for 30 minutes. 4. Place 10 microL of liquefied semen on the label end of each slide, and evenly smear the specimen using a plain slide (this process is the same as making a blood smear). 5. Allow the smears to air dry for 15 minutes before placing both slides into 1 slide holder for shipment.

Specimen Minimum Volume: A minimum count is needed; lab will determine

Transport Temperature:
Semen Ambient

CPT Code Information: 89398

STRNG
63866

Strongyloides Antibody, IgG, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Refrigerated (preferred) 30 days

Frozen 30 days

CPT Code Information: 86682

STCH
9928

Strychnine, Serum/Plasma
Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). Serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerate in a plastic vial. Note: 1. Indicate serum on request form. 2. Label specimen appropriately (serum). Plasma Draw blood in 2 lavender-top (EDTA) or 2 green-top (heparin) tubes. Plasma gel tube is not acceptable. Spin down and send 5 mL of EDTA or heparinized plasma refrigerate in a plastic vial. Note: 1. Indicate plasma on request form. 2. Label specimen appropriately (plasma).

Specimen Minimum Volume: 2.2 mL

Transport Temperature:
Varies Refrigerated

CPT Code Information: 80323

FSTYR
91094
Styrene, Occupational Exposure, Blood

Specimen Requirements: Collect 2 tubes green-top (sodium heparin) whole blood. Send 20 mL sodium heparin whole blood refrigerated. Collect specimen at end of shift or prior to next shift. Tubes should be filled to prevent loss of volatile compound into headspace.

Specimen Minimum Volume: 2.5 mL

Transport Temperature:
WB Sodium Heparin Refrigerated (preferred) 14 days

Frozen 180 days

CPT Code Information: 84600

SUBS
45381
Subseq Antib MIC (Bill Only)

Specimen Requirements: This test is for Billing Purposes Only. This is not an orderable test.

Transport Temperature:
Varies

SUAC
83635
Succinylacetone, Blood Spot

Specimen Requirements: Supplies: Card - Blood Spot Collection (Filter Paper) (T493)
Container/Tube: Local Newborn Screening Card Specimen Volume: 2 blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. At least 1 spot should be complete, ie, unpunched. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. 6. If collection of a new specimen is necessary, let blood dry on the Blood Spot Collection Card (T493) at ambient temperature in a horizontal position for 3 hours. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: Blood Spot: 1

Transport Temperature:
Whole blood Ambient (preferred)
Frozen
Refrigerated

CPT Code Information: 83789

**FSUCC 57460**

**Succinyladenosine, CSF**

**Specimen Requirements:** Submit 1 mL of spinal fluid (CSF) in a sterile, plastic screw-cap vial. Freeze specimen after collection and ship at frozen temperature. Note: Complete and submit with specimen, Medical Neurogenetics Neurochemistry request form with Physician name and phone number. Also include test required, sample date, date of birth, current medications and relevant history.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

CSF Frozen

CPT Code Information: 82542

**FSCNE 57543**

**Sugar Cane (Saccharum officinarum) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 28 days

CPT Code Information: 86003

**SBSE 82382**

**Sugarbeet Seed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

Serum Refrigerated (preferred) 14 days

Frozen 90 days

CPT Code Information: 86003
Sugarbeet Weed, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Sulfamethoxazole, Serum

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Serum for a peak level should be drawn 60 minutes after dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80299

Sulfate, 24 Hour, Urine

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Container/Tube: Plastic, 5-mL urine tube (T465) Specimen Volume: 4 mL Collection Instructions: Collect urine for 24 hours. 2. No preservative. 3. Specimen must be kept refrigerated during and after collection. 4. Specimen pH should be between 4.5 and 8 and will stay in this range if kept refrigerated. Specimens with pH >8 indicate bacterial contamination, and testing will be cancelled. Do not attempt to adjust pH as it will adversely affect results. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 84392

Sulfatide Autoantibody Test

**Specimen Requirements:** Collection Container/Tube: 5 mL Red/Serum gel tube is also acceptable. Submission Container/Tube: plastic vial Collection Instructions: Draw blood in a plain, red-top tube(s),
serum gel tube is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 21 days

- Frozen 120 days
- Ambient 72 hours

**CPT Code Information:** 83520 x2 Immunoassay, analyte, quant; not otherwise specified

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**FSLFU 57710**

**Sulfonylurea Screen, Urine**

**Specimen Requirements:** Collection Container: Plastic urine container Specimen Volume: 5 mL
Collection Instructions: Collect 5 mL random urine without preservative. Ship refrigerated in a plastic container.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days

- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80377

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**FSUNG 57681**

**Sunflower Seed IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days

- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**SUNFS 82813**

**Sunflower Seed, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
**CPT Code Information:** 86003

### SUNF 82615 - Sunflower, IgE

**Specimen Requirements:**
- *Container/Tube:* Preferred: Red top Acceptable: Serum gel
- *Specimen Volume:* 0.5 mL for each 5 allergens requested
- *Additional Information:* Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:**
- For 1 allergen: 0.3 mL
- For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL}\) dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

### SAT24 36971 - Supersaturation Profile, 24 Hour, Urine

**Specimen Requirements:**
- *Container/Tube:* Plastic, 60-mL urine bottle
- *Collection Instructions:* 1. Collect urine for 24 hours. 2. Add 30 mL of toluene as preservative at start of collection, or refrigerate specimen during and after collection. 3. Specimen pH should be between 4.5 and 8 and will stay in this range if kept refrigerated. Specimens with pH >8 indicate bacterial contamination, and testing will be cancelled. Do not attempt to adjust pH as it will adversely affect results. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 82340-Calcium; 82436-Chloride; 82507-Citrate excretion; 82570-Creatinine; 83735-Magnesium; 83935-Osmolality; 83945-Oxalate; 83986-pH; 84105-Phosphorus; 84133-Potassium; 84300-Sodium; 84392-Sulfate; 84560-Uric acid; 82140-Ammonium; 84540-Urea Nitrogen;

### SSATR 36907 - Supersaturation Profile, Pediatric, Random, Urine

**Specimen Requirements:**
- *Supplies:* Urine Tubes, 10 mL (T068) Aliquot Tubes, 5 mL (T465)
- *Container/Tube:* 2 plastic, 10-mL urine tubes (T068) and 4 plastic, 5-mL urine tubes (T465)
- *Collection Instructions:* 1. Collect a random urine specimen and divide the urine into 6 tubes. 2. Refrigerate specimen after collection. Specimen pH should be between 4.5 and 8 and will stay in this range if kept refrigerated. Specimens with pH over 8 indicate bacterial contamination and testing will be canceled. Do not attempt to adjust pH as it will adversely affect results.

**Specimen Minimum Volume:** 30 mL

**Transport Temperature:**
- Current as of October 16, 2018 7:53 pm CDT

800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com

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Urine Refrigerated (preferred) 14 days

Frozen 14 days

**CPT Code Information:** 82310-Calcium; 82436-Chloride; 82507-Citrate excretion; 82570-Creatinine; 83735-Magnesium; 83935-Osmolality; 83945-Oxalate; 83986-pH; 84105-Phosphorus; 84133-Potassium; 84300-Sodium; 84392-Sulfate; 84560-Uric acid; 82140-Ammonium;

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**SNS**

82594

**Supplemental Newborn Screen, Blood Spot**

**Specimen Requirements:** Patient must be older than 12 hours and less than 1 week of age. Supplies: Card-Blood Spot Collection Filter Paper (T493) Preferred: Blood Spot Collection Card (T493) Acceptable: Whatman Protein Saver 903 Paper, Ahlstrom 226 filter paper Specimen Volume: 3 Blood spots Collection Instructions: 1. Do not use device or capillary tube containing EDTA to collect specimen. 2. Do not expose specimen to heat or direct sunlight. 3. Do not stack wet specimens. 4. Keep specimen dry. 5. If collection of a new specimen is necessary, let blood dry on the Blood Spot Collection Card (T493) at ambient temperature in a horizontal position for 3 hours. Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

**Specimen Minimum Volume:** Blood Spots: 1

**Transport Temperature:**

Whole blood Ambient (preferred)

Frozen

Refrigerated

**CPT Code Information:** 83789

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**STPPC**

113335

**Surg Path Touch Prep (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test. **Transport Temperature:**

Varies Ambient (preferred)

Refrigerated

**CPT Code Information:** 88333

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**STAPC**

113336

**Surg Path Touch Prep Additional (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test. **Transport Temperature:**

Varies Ambient (preferred)

Refrigerated
CPT Code Information: 88334

**SUS**

**Susceptibility (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies

CPT Code Information: 87181

**RSLG**

**Susceptibility Slow Grower (Bill Only)**

**Specimen Minimum Volume:** Isolate

**Transport Temperature:**
Varies

CPT Code Information: 87186

**STV1**

**Susceptibility, Mtb Complex, Broth (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies

CPT Code Information: 87188 x 3

**STVP**

**Susceptibility, Mtb Complex, PZA (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies

CPT Code Information: 87188

**STV2**

**Susceptibility, Mtb Cx, 2nd Line (Bill Only)**

**Specimen Requirements:** This test is for billing purposes only. This is not an orderable test.

**Transport Temperature:**
Varies

CPT Code Information: 87186
Susceptibility, Mycobacterium tuberculosis Complex, Pyrazinamide

**Specimen Requirements:** Specimen Type: Organism Supplies: Infectious Container, Large (T146) Container/Tube: Middlebrook 7H10 agar slant Specimen Volume: Isolate Collection Instructions: Organism must be in pure culture, actively growing.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Refrigerated

**CPT Code Information:** 87188-Susceptibility, Mycobacterium tuberculosis Complex, Pyrazinamide; 87153-Mtb PZA Confirmation, pncA Sequencing (if appropriate);

Susceptibility, Mycobacterium tuberculosis Complex, Second Line

**Specimen Requirements:** Specimen Type: Organism Supplies: Infectious Container, Large (T146) Container/Tube: Middlebrook 7H10 agar slant Specimen Volume: Isolate Collection Instructions: Organism must be in pure culture, actively growing.

**Transport Temperature:**
- Varies
- Ambient (preferred)
- Refrigerated

**CPT Code Information:** 87186-Susceptibility, Mtb Cx, 2nd Line

Sweet Gum, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Sweet Potato, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Sweet Vernal Grass, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Swordfish, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Synaptophysin (SYNAPTO) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated
**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**SS18F**

**Synovial Sarcoma (SS), 18q11.2 (SS18 or SYT) Rearrangement, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue
Preferred: Tissue block
Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides
Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88275 – Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**SYT**

**Synovial Sarcoma by Reverse Transcriptase PCR (RT-PCR)**

**Specimen Requirements:** A quality specimen is essential for evaluation. Submit only tissue containing tumor cells; minimal tissue is required for evaluation. Supplies: Surgical Pathology Packaging Kit (T554) requested, but not required
Preferred: Specimen Type: Formalin-fixed, paraffin-embedded (FFPE) tissue with a minimum of 10% tumor cell population
Collection Instructions: Process all specimens into FFPE blocks prior to submission. Acceptable: Specimen Type: Unstained slides with a minimum of 10% tumor cell population; slides may be stained and/or scraped Slides: A minimum of ten, 4- to 5-micron thick, unstained slides are required.

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81401-EWSR1/FLI1; 81401-EWSR1/ERG; 88381-Microdissection, manual;

**FSCMS**

**Synthetic Cannabinoid Metabolites Screen - Expanded, Urine**

**Specimen Requirements:** Container/Tube: Plastic urine container Specimen Volume: 5 mL
Collection Instructions:
1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 2.4 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen 30 days

**CPT Code Information:** 80307; 80352 â€“ if applicable;

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**Synthetic Glucocorticoid Screen, Serum**

**SGSS**

**81031**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Red top
- Acceptable: Serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Serum Frozen (preferred) 14 days
- Refrigerated 7 days
- Ambient 24 hours

**CPT Code Information:** 80299

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**Synthetic Glucocorticoid Screen, Urine**

**SGSU**

**81035**

**Specimen Requirements:**
- Container/Tube: Plastic, 10-mL urine tube (T068)
- Specimen Volume: 5 mL
- Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Urine Frozen 14 days

**CPT Code Information:** 80299

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**Syphilis Antibody by TP-PA, Serum**

**TPPA**

**61480**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86780
**SYPGN**

**Syphilis Antibody, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.75 mL  

**Specimen Minimum Volume:** 0.4 mL  

**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 14 days  

**CPT Code Information:** 86780

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**SYPGR**

**Syphilis IgG Antibody with Reflex, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL  

**Specimen Minimum Volume:** 1 mL  

**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 14 days  

**CPT Code Information:** 86780-Syphilis antibody; 86592-Rapid Plasma reagin (if appropriate); 86780-Syphilis Antibody by TP-PA (if appropriate); 86593-Rapid Plasma Reagin Titer (if appropriate);

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**TBNY**

**T, B and NK Lymphocyte Quantitation, New York**

**Specimen Requirements:** Container/Tube: 4 mL Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot.  

**Specimen Minimum Volume:** 1 mL  

**Transport Temperature:**  
Whole Blood EDTA Ambient 52 hours  

**CPT Code Information:** 86355; 86357; 86359; 86360;

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**TBET**

**T-Box Expressed in T Cells (TBET) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block  

**Transport Temperature:**  
TECHONLY Ambient (preferred)  
Refrigerated
CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

T-Cell Acute Lymphoblastic Leukemia (T-ALL), FISH

Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

Specimen Minimum Volume: Blood: 2 mL; Bone Marrow: 1 mL

Transport Temperature: Varies Ambient (preferred) Refrigerated

CPT Code Information: 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate) ; 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

T-Cell Intracellular Antigen 1 (TIA-1) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature: TECHONLY Ambient (preferred) Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

T-Cell Leukemia/Lymphoma Protein 1A (TCL1A) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
T-Cell Lymphoma, FISH, Blood or Bone Marrow

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens:

- **Specimen Type:** Blood
  - **Container/Tube:** Green top (sodium heparin)
  - **Specimen Volume:** 7-10 mL
  - **Collection Instructions:**
    1. Invert several times to mix blood.
    2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

- **Specimen Type:** Bone marrow
  - **Container/Tube:** Green top (sodium heparin)
  - **Specimen Volume:** 1-2 mL
  - **Collection Instructions:**
    1. Invert several times to mix bone marrow.
    2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL

**Transport Temperature:**
- Varieties:
  - Ambient (preferred)
  - Refrigerated

**CPT Code Information:**
- 88271x2, 88291 Single DNA probe, each (first probe set), Interpretation and report; 88271x2 DNA probe, each; each additional probe set (if appropriate); 88271x1 DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

T-Cell Lymphoma, FISH, Tissue

**Specimen Requirements:** Submit only 1 of the following specimens:

- **Specimen Type:** Lymph node
  - Preferred: Tissue block
  - COLLECTION INSTRUCTIONS: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used
  - Acceptable: Slides

- **Specimen Type:** Solid tumor
  - Preferred: Tissue block
  - COLLECTION INSTRUCTIONS: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used
  - Acceptable: Slides

**Specimen Minimum Volume:** For each probe set ordered, 2 consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue:
  - Ambient (preferred)
  - Refrigerated
**TCRF1 70560**

**T-Cell Receptor Beta (TCR Beta F1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**TCRGD 70562**

**T-Cell Receptor Delta Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient (preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**TREC 87959**

**T-Cell Receptor Excision Circles (TREC) Analysis, Blood**

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day. Supplies: Ambient Mailer-Critical Specimens Only (T668) Container/Tube: Lavender top (EDTA) Specimen Volume: Adults: 10 mL Pediatrics: -Preferred volume for >1 year = 5 mL -Preferred volume for ≤1 year old = 3 mL Collection Instructions: 1. Do not draw specimen through a butterfly needle. 2. Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume:** Adults: 10 mL/Pediatrics: 1 mL

**Transport Temperature:**

Whole Blood EDTA Ambient 48 hours
TCGR

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

**T-Cell Receptor Gene Rearrangement, PCR, Blood**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 4 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole blood Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 81340-TCB (T cell antigen receptor, beta) (eg, leukemia and lymphoma), gene rearrangement analysis to detect abnormal clonal population(s); using amplification methodology (eg, PCR); 81342-TCG@ (T cell receptor, gamma) (eg, leukemia and lymphoma), gene rearrangement analysis, evaluation to detect abnormal clonal population(s);

TCGBM

**T-Cell Receptor Gene Rearrangement, PCR, Bone Marrow**

**Specimen Requirements:** Container/Tube: Preferred: EDTA (lavender top) Acceptable: ACD (yellow top) Specimen Volume: 2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Bone Marrow Ambient (preferred) 7 days
- Refrigerated 7 days

**CPT Code Information:** 81340-TCB (T cell antigen receptor, beta) (eg, leukemia and lymphoma), gene rearrangement analysis to detect abnormal clonal population(s); using amplification methodology (eg, PCR); 81342-TCG@ (T cell receptor, gamma) (eg, leukemia and lymphoma), gene rearrangement analysis, evaluation to detect abnormal clonal population(s);

TCGRV

**T-Cell Receptor Gene Rearrangement, PCR, Varies**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Body fluid Container/Tube: Sterile container Specimen Volume: At least 5 mL Collection Instructions: 1. If the volume is large, pellet cells prior to sending. 2. Send less volume at ambient temperature or as a frozen cell pellet. Specimen Stability Information: Body fluid: Ambient/Refrigerated/Frozen Cell pellet: Frozen Specimen Type: Paraffin-embedded bone marrow aspirate clot Container/Tube: Paraffin block Specimen Stability Information: Ambient/Refrigerated Specimen Type: Frozen tissue Container/Tube: Plastic container Specimen Volume: 100 mg Collection Instructions: Freeze tissue within 1 hour of collection. Specimen Stability Information: Frozen Specimen Type: Paraffin-embedded tissue Container/Tube: Paraffin block Specimen Stability Information: Ambient/Refrigerated/Frozen Specimen Type: Spinal fluid Container/Tube: Sterile vial Specimen Volume: 5-10 mL Specimen Stability Information: Ambient/Refrigerated Specimen Type: Extracted DNA from blood or bone marrow Container/Tube: 1.5- to 2-mL tube with indication of volume and concentration of DNA Specimen Volume: Entire specimen Collection Instructions: Label specimen as extracted DNA from blood or bone marrow Specimen Stability Information: Refrigerated/Ambient
**Specimen Minimum Volume:** Body Fluid or Spinal Fluid: 1 mL; Tissue: 50 mg; Extracted DNA from Blood or Bone Marrow: 50 microliter at 20 ng/microliter

**Transport Temperature:**
Varies

**CPT Code Information:** 81340-TCB (T cell antigen receptor, beta) (eg, leukemia and lymphoma), gene rearrangement analysis to detect abnormal clonal population(s); using amplification methodology (eg, PCR); 81342-TCG@ (T cell receptor, gamma) (eg, leukemia and lymphoma), gene rearrangement analysis, evaluation to detect abnormal clonal population(s);

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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>TCP</td>
<td>T-Cell Subsets, Naive, Memory and Activated</td>
</tr>
<tr>
<td>89319</td>
<td><strong>Specimen Requirements:</strong> For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot. <strong>Specimen Minimum Volume:</strong> 1 mL <strong>Transport Temperature:</strong> Whole Blood EDTA Ambient 72 hours <strong>CPT Code Information:</strong> 86359-T cells, total count; 86361-Absolute CD4 count; 88184-Flow cytometry;</td>
</tr>
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<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>TREGS</td>
<td>T-Cell Subsets, Regulatory (Tregs)</td>
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<tr>
<td>89318</td>
<td><strong>Specimen Requirements:</strong> For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube. Do not aliquot. <strong>Specimen Minimum Volume:</strong> 1 mL <strong>Transport Temperature:</strong> Whole Blood EDTA Ambient 72 hours <strong>CPT Code Information:</strong> 86359-T cells, total count; 86361-Absolute CD4 count;</td>
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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>TLBLF</td>
<td>T-Lymphoblastic Leukemia/Lymphoma, FISH, Tissue</td>
</tr>
<tr>
<td>65413</td>
<td><strong>Specimen Requirements:</strong> Submit only 1 of the following specimens: Specimen Type: Tissue Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block Specimen Type: Slides Specimen Volume: 19 Consecutive, unstained, 5 micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide <strong>Specimen Minimum Volume:</strong> Formalin-fixed paraffin-embedded tissue block or for each probe set ordered, 9 unstained consecutive tissue sections cut at 5 microns and placed on positively charged microscope slides. Include 1 hematoxylin and eosin (H and E) stained slide. <strong>Transport Temperature:</strong> Tissue Ambient (preferred)</td>
</tr>
</tbody>
</table>

**Current as of October 16, 2018 7:53 pm CDT**

800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**CPT Code Information:** 88271 x 2, 88291-DNA probe, each (first probe set), Interpretation and report; 88271 x 2-DNA probe, each; each additional probe set (if appropriate); 88271-DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271 x 2-DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271 x 3-DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52-Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274-Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275-Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

**FRT3**

**T3 (Triiodothyronine), Free, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

**CPT Code Information:** 84481

**RT3**

**T3 (Triiodothyronine), Reverse, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.8 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 84482

**T3**

**T3 (Triiodothyronine), Total, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Refrigerated (preferred) 7 days
- Frozen 30 days
**CPT Code Information:** 84480

**FRT4D**

**8859**

**T4 (Thyroxine), Free by Dialysis, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2.6 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. Spin down and separate serum from cells within 2 hours of draw. 3. Remove serum from serum gel tube if applicable.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 21 days
  - Ambient 7 days

**CPT Code Information:** 84439

**FRT4**

**8725**

**T4 (Thyroxine), Free, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 30 days
  - Ambient 72 hours

**CPT Code Information:** 84439

**T4FT4**

**36108**

**T4 (Thyroxine), Total and Free**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.625 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
  - Frozen 30 days
  - Ambient 72 hours

**CPT Code Information:** 84436-Total; 84439-Free;
T4 (Thyroxine), Total Only, Serum

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 84436

Tacrolimus, Blood

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Draw blood immediately before a schedule dose. 2. Do not centrifuge. 3. Send specimen in original tube. Additional Information: Therapeutic range applies to trough specimens drawn immediately prior to a.m. dose.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 80197

Tacrolimus, Peak, Blood

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Do not centrifuge. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 80197

Tapentadol and Metabolite, Random Urine

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Plastic urine container Submission Container/Tube: Aliquot Tube, 5 mL (T465) Specimen Volume: 2 mL Collection Instructions: No preservative.
Specimen Minimum Volume: 0.1 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Ambient 14 days

Frozen 14 days

CPT Code Information: 80372; G0480 (if appropriate);

Tapioca IgE

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days

Frozen 365 days

Ambient 28 days

CPT Code Information: 86003

Targeted Opioid Screen, Urine

Specimen Requirements: Supplies: Plastic 5-mL tube (T465) Collection Container/Tube: Plastic urine container Submission Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 3 mL

Collection Instructions: 1. Collect a random urine specimen. 2. No preservative

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Refrigerated (preferred) 14 days

Frozen 28 days

Ambient 72 hours

CPT Code Information: 80364, G0480 (if appropriate)

Tarragon, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
TRAP 70570

Tartrate-Resistant Acid Phosphatase (TRAP) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 86003

TAU3 70628

TAU 3 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

TAU4 70627

TAU 4 Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

TAUI 70558

TAU Immunostain, Technical Component Only
**Hexaz 35454**

**Tay-Sachs Disease, HEXA Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Varies Ambient

(preferred)

Frozen

Refrigerated

**CPT Code Information:** 81406

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**Tay-Sachs Disease, Mutation Analysis, HEXA**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 2.6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 Flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 0.5 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

**Transport Temperature:**

Varies

**CPT Code Information:** 81255-HEXA (hexosaminidase A, alpha polypeptide) (eg, Tay-Sachs disease) gene analysis, common variants (eg, 1278insTATC, 1421+1G->C, G269S); Fibroblast Culture
TCRVB 62930

**TCR V-Beta Repertoire Analysis by Spectratyping, Blood**

**Specimen Requirements:** For serial monitoring, we recommend that specimen draws be performed at the same time of day, if possible. Supplies: Ambient Mailer-Critical Specimens Only (T668) Specimen Type: Blood Container/Tube: Lavender top (EDTA) Specimen Volume: Adults: 10 mL Pediatrics: -Preferred volume for >1 year: 3 mL -Preferred volume for < or =1 year: 1 mL Collection Instructions: Send specimen in original tube.

**Specimen Minimum Volume:** Adults: 5 mL/Pediatrics: 1 mL

**Transport Temperature:** Whole Blood EDTA Ambient 48 hours

**CPT Code Information:** 81340-TRG (T cell antigen receptor, beta) (eg, leukemia and lymphoma), gene rearrangement analysis to detect abnormal clonal population(s); using amplification methodology (eg, polymerase chain reaction)

FGTEA 57684

**Tea IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:** Serum Refrigerated (preferred) 28 days

- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

TEA 82625

**Tea, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:** Serum Refrigerated (preferred) 14 days

- Frozen 90 days
Teased Fiber (Bill Only)

Specimen Requirements: This test is for billing purposes only. This is not an orderable test.

CPT Code Information: 86003

Telomere Defects Gene Panel

Specimen Requirements: Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card-Blood Spot Collection Filter Paper (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Whatman FTA Classic paper, Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient <1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Peripheral blood mononuclear cells (PBMCs) Container/Tube: Cell pellet Collection Instructions: Send as a suspension in freezing medium or cell pellet frozen on dry ice. Specimen Stability Information: Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Additional Information: Indicate the tests to be performed on the fibroblast culture cells. A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Skin biopsy Supplies: Fibroblast Biopsy Transport Media (T115) Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes of culture media can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Additional Information: A separate culture charge will be assessed under FIBR / Fibroblast Culture. An additional 4 weeks is required to culture fibroblasts before genetic testing can occur. Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 250 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

Specimen Minimum Volume: Whole blood: 1 mL

Transport Temperature: Varies

CPT Code Information: 81479

Temazepam (Restoril), Serum

Specimen Requirements: Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.3 mL

Transport Temperature: Varies

CPT Code Information: 80763
Varies Refrigerated (preferred) 7 days
  Frozen 180 days
  Ambient 72 hours

**CPT Code Information:** 80346; G0480 (if appropriate); ;

**TDT**

70563

**Terminal Deoxynucleotidyl Transferase (TdT) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
  Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**TERT**

65415

**TERT Promoter Analysis, Tumor**

**Specimen Requirements:** Preferred Specimen Type: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded tissue block Acceptable Slides: 1 stained and 10 unstained slides Collection Instructions: Submit 1 slide stained with hematoxylin and eosin and 10 unstained slides (nonbaked, charged slides preferred) with 5-micron thick sections of the tumor tissue. Specimen Type: Cytology slide (Direct smears or ThinPrep) Slides: 1-2 slides Collection Instructions: Submit 1-2 slides stained and coverslipped with at least 5,000 total nucleated cells Additional Information: Cytology slides will not be returned.

**Specimen Minimum Volume:** Formalin-fixed, paraffin-embedded tissue block (preferred) or 1 slide stained with hematoxylin and eosin and 10 unstained, non-baked slides with 5-microns thick sections of the tumor tissue with at least 6 mm(2) area of tissue (can be over multiple slides from one tissue block) and at least 20% tumor cells

**Transport Temperature:**
Varies Ambient (preferred)
  Frozen
  Refrigerated

**CPT Code Information:** 81479; 88381;

**TTBS**

80065

**Testosterone, Total and Bioavailable, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.6 mL

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
Transport Temperature:
Serum Red Refrigerated (preferred) 14 days
Frozen 60 days

CPT Code Information: 84403; 84410; ;

**TGRP 8508**

Testosterone, Total and Free, Serum

Specimen Requirements: Container/Tube: Red top Specimen Volume: 2.5 mL
Specimen Minimum Volume: 1 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 14 days
Frozen 60 days

CPT Code Information: 84402; 84403; ;

**TTFB 83686**

Testosterone, Total, Bioavailable, and Free, Serum

Specimen Requirements: Container/Tube: Red top Specimen Volume: 3.5 mL
Specimen Minimum Volume: 2 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 14 days
Frozen 60 days

CPT Code Information: 84402; 84403; 84410;

**TTST 8533**

Testosterone, Total, Serum

Specimen Requirements: Container/Tube: Red top Specimen Volume: 1 mL
Specimen Minimum Volume: 0.215 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 14 days
Frozen 60 days

CPT Code Information: 84403

**TTIGS 36667**

Tetanus Toxoid IgG Antibody, Serum

Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.4 mL

Transport Temperature:
Serum Refrigerated (preferred) 30 days  
Frozen 30 days

**CPT Code Information:** 86317

**TTOX**  
**82138**  
**Tetanus Toxoid, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 90 days

**CPT Code Information:** 86003

**FFTEN**  
**57102**  
**Tetrahydrobiopterin and Neopterin Profile (BH4, N)**

**Specimen Requirements:** Medical Neurogenetics collection kit (MML Supply T657) required. Each collection kit contains 5 microcentrifuge tubes. COLLECTION PROTOCOL: 1) CSF should be collected from the first drop into the tubes in the numbered order. Fill each tube to the marked line with the required volumes Tube 1: 0.5 mL Tube 2: 1.0 mL Tube 3: 1.0 mL (contains antioxidants necessary to protect the sample integrity) Tube 4: 1.0 mL Tube 5: 1.0 mL - If sample's not blood contaminated, the tubes should be placed on dry ice at bedside - If sample's are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes, then frozen - Store samples at -80 until they can be shipped 2) Complete Medical Neurogenetics, LLC request form. Include test required, sample date and date of birth. 3) Label tubes with patient name and ID number, leaving the tube number viewable. 4) Place samples inside a specimen transport bag and the Medical Neurogenetics, LLC request form inside the pouch of the transport bag. 5) Ship samples frozen on dry ice.

**Transport Temperature:**  
CSF Frozen

**CPT Code Information:** 82542

**THEVP**  
**84158**  
**Thalassemia and Hemoglobinopathy Evaluation**

**Specimen Requirements:** Both blood and serum are required. Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 15 mL Collection Instructions: Send specimen in original tube. Do not aliquot. Specimen Type: Serum Container/Tube: Red top or serum gel Specimen Volume: 0.6 mL Collection Instructions: Label specimen as serum.

**Specimen Minimum Volume:** Blood: 2.5 mL; Serum: 0.5 mL

**Transport Temperature:**  
Serum Refrigerated 7 days
Whole Blood EDTA Refrigerated 7 days

CPT Code Information: Thalassemia and Hemoglobinopathy Evaluation; 82728-Ferritin; 83020-Hemoglobin electrophoresis; 83021-Hemoglobin A2 and F; IEF Confirms; 82664 (if appropriate); Hemoglobin, Unstable, Blood; 83068 (if appropriate); Hemoglobin Variant by Mass Spectrometry; 83789 (if appropriate);

Thallium, 24 Hour, Urine

Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. Aliquot 10 mL in a plastic 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert. 4. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Urine Refrigerated (preferred) 28 days
  Ambient 28 days
  Frozen 28 days

CPT Code Information: 83018

Thallium, Blood

Specimen Requirements: Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183) Specimen Volume: Full tube Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube. Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368381.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Whole blood Refrigerated (preferred) 28 days
  Ambient 28 days
  Frozen 28 days

CPT Code Information: 83018
**TLCRU**

60325

**Thallium/Creatinine Ratio, Random, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container with no metal cap or glued insert Submission Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 2 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 1.3 mL

**Transport Temperature:**

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<th>Duration</th>
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<tbody>
<tr>
<td>Ambient</td>
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<tr>
<td>Frozen</td>
<td>28 days</td>
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</table>

**CPT Code Information:** 83018 Thallium concentration; 82570 Creatinine concentration;

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**FFTCC**

75149

**THC Confirmation, MS, SP**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum: Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in plastic vial. Plasma: Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in plastic vial.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**

<table>
<thead>
<tr>
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<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
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<tr>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
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<tr>
<td>Frozen</td>
<td>180 days</td>
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**CPT Code Information:** 80349

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**THEOA**

37062

**Theophylline, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

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<td>72 hours</td>
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</tbody>
</table>

**CPT Code Information:** 80198

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**TAMV**

32514

**Thermoactinomyces vulgaris, IgG Antibodies, Serum**

Current as of October 16, 2018 7:53 pm CDT

800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 21 days
- Frozen 21 days

**CPT Code Information:** 86609

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**Thiamine (Vitamin B1), Whole Blood**

**Specimen Requirements:** Patient Preparation: Fasting overnight (12-14 hours). Infants—draw prior to next feeding. Water can be taken as needed. Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Amber vial Specimen Volume: 4 mL Collection Instructions: 1. Invert 8 to 10 times to mix blood. 2. Transfer whole blood into amber vial or tube and freeze within 24 hours.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:** Whole Blood EDTA Frozen 14 days

**CPT Code Information:** 84425

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**ThinPrep Diagnostic**

**Specimen Requirements:** Patient Preparation: For optimal interpretation, Pap smears should be collected near the middle of the menstrual cycle. Avoid douching, lubricant use, or sexual intercourse for 24 hours prior to specimen collection. Only 1 aliquot may be removed from PreservCyt sample vial prior to performing the ThinPrep Pap test, regardless of the volume of the aliquot (maximum aliquot volume: 4 mL). Submit only 1 of the following specimens: Supplies: Thin Prep Media with Broom Kit (T056) Specimen Type: Cervical Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain adequate sampling from cervix using a broom-like collection device. If desired, use lukewarm water to warm and lubricate the speculum. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times. 2. Rinse the broom as quickly as possible into the PreservCyt solution vial by pushing broom into bottom of vial 10 times, forcing the bristles apart. 3. As a final step, swirl broom vigorously to further release material. Discard the collection device. 4. Tighten cap on vial so that the torque line on the cap passes the torque line on the vial. 5. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth). Supplies: Thin Prep Media with Spatula and Brush Kit (T434) Specimen Type: Ectocervix and endocervix Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm water to warm and lubricate the speculum. Select contoured end of plastic spatula and rotate it 360 degrees around the entire exocervix while maintaining tight contact with exocervical surface. 2. Rinse spatulas quickly as possible into the PreservCyt solution vial by swirling spatula vigorously in vial 10 times. Discard the spatula. 3. Next, obtain an adequate specimen from endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate one-quarter or one-half turn in on direction. Do not over-rotate. 4. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. 5. Swirl brush vigorously as final step to further release material. Discard the brush.
6. Tighten the cap so that the torque line on the cap passes the torque line on the vial. 7. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient’s name and medical record number or date of birth).

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**
- Varies Ambient (preferred) 42 days
- Refrigerated 42 days

**CPT Code Information:** G0123; 88142; 88141-TPDPC (if appropriate); ;

**ThinPrep Diagnostic with Human Papillomavirus (HPV) Reflex**

**Specimen Requirements:** Patient Preparation: For optimal interpretation, Papanicolaou smears should be collected near the middle of the menstrual cycle. No douching, lubricant use, and sexual intercourse for 24 hours prior to specimen collection. Only 1 aliquot may be removed from PreservCyt sample vial prior to performing the ThinPrep Pap Test, regardless of the volume of the aliquot (maximum aliquot volume=4 mL). Submit only 1 of the following specimens: Specimen Type: Cervical Supplies: Thin Prep Media with Broom Kit (T056) Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain adequate sampling from cervix using a broom-like collection device. If desired, use lukewarm water to warm and lubricate the speculum. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times. 2. Rinse the broom as quickly as possible into the PreservCyt solution vial by pushing broom into bottom of vial 10 times, forcing the bristles apart. 3. As a final step, swirl broom vigorously to further release material. Discard the collection device. 4. Tighten cap on vial so that the torque line on the cap passes the torque line on the vial. 5. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient’s name and medical record number or date of birth). Specimen Type: Ectocervix and endocervix Supplies: Thin Prep Media with Spatula and Brush Kit (T434) Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm water to warm and lubricate the speculum. Select contoured end of plastic spatula and rotate it 360 degrees around the entire exocervix while maintaining tight contact with exocervical surface. 2. Rinse spatulas quickly as possible into the PreservCyt solution vial by swirling spatula vigorously in vial 10 times. Discard the spatula. 3. Next, obtain an adequate specimen from endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate one-quarter or one-half turn in 1 direction. Do not overrotate. 4. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. 5. Swirl brush vigorously as final step to further release material. Discard the brush. 6. Tighten the cap so that the torque line on the cap passes the torque line on the vial. 7. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient’s name and medical record number or date of birth).

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**
- Varies Ambient (preferred) 42 days
- Refrigerated 42 days

**CPT Code Information:** G0123; 88142; 88141-TPDPC (if appropriate); ;

**ThinPrep Screen**

**Specimen Requirements:** Patient Preparation: For optimal interpretation, Pap smears should be
collected near the middle of the menstrual cycle. Avoid douching, lubricant use, and sexual intercourse for 24 hours prior to specimen collection. Only 1 aliquot may be removed from PreservCyt sample vial prior to performing the ThinPrep Pap test, regardless of the volume of the aliquot (maximum aliquot volume: 4 mL). Submit only 1 of the following specimens: Supplies: Thin Prep Media with Broom Kit (T056) Specimen Type: Cervical Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain adequate sampling from cervix using a broom-like collection device. If desired, use lukewarm to warm water and lubricate the speculum. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times. 2. Rinse the broom as quickly as possible into the PreservCyt solution vial by pushing broom into bottom of vial 10 times, forcing the bristles apart. 3. As a final step, swirl broom vigorously to further release material. Discard the collection device. 4. Tighten cap on vial so that the torque line on the cap passes the torque line on the vial. 5. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient’s name and medical record number or date of birth). Supplies: Thin Prep Media with Spatula and Brush Kit (T434) Specimen Type: Ectocervix and endocervix Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm to warm water and lubricate the speculum. Select contoured end of plastic spatula and rotate it 360 degrees around the entire exocervix while maintaining tight contact with exocervical surface. 2. Rinse spatulas quickly as possible into the PreservCyt solution vial by swirling spatula vigorously in vial 10 times. Discard the spatula. 3. Next, obtain an adequate specimen from endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate one-quarter or one-half turn in one direction. Do not overrotate. 4. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. 5. Swirl brush vigorously as final step to further release material. Discard the brush. 6. Tighten the cap so that the torque line on the cap passes the torque line on the vial. 7. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient’s name and medical record number or date of birth).

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**

Varies Ambient (preferred) 42 days

Refrigerated 42 days

**CPT Code Information:** G0123; 88142; 88141-TPSPC (if appropriate);

**STHPV 70335 ThinPrep Screen with Human Papillomavirus (HPV) Reflex**

**Specimen Requirements:** Patient Preparation: For optimal interpretation, Papanicolaou smears should be collected near the middle of the menstrual cycle. No douching, lubricant use, and sexual intercourse for 24 hours prior to specimen collection. Only 1 aliquot may be removed from PreservCyt sample vial prior to performing the ThinPrep Pap Test, regardless of the volume of the aliquot (maximum aliquot volume: 4 mL). Submit only 1 of the following specimens: Supplies: Thin Prep Media with Broom Kit (T056) Specimen Type: Cervical Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain adequate sampling from cervix using a broom-like collection device. If desired, use lukewarm to warm water and lubricate the speculum. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times. 2. Rinse the broom as quickly as possible into the PreservCyt solution vial by pushing broom into bottom of vial 10 times, forcing the bristles apart. 3. As a final step, swirl broom vigorously to further release material. Discard the collection device. 4. Tighten cap on vial so that the torque line on the cap passes the torque line on the vial. 5. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient’s name and medical record number or date of birth). Supplies: Thin Prep Media with Spatula and Brush Kit (T434) Specimen Type: Ectocervix and endocervix Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm water to warm and lubricate the speculum. Select contoured end of plastic spatula...
and rotate it 360 degrees around the entire exocervix while maintaining tight contact with exocervical surface. 2. Rinse spatulas quickly as possible into the PreservCyt solution vial by swirling spatula vigorously in vial 10 times. Discard the spatula. 3. Next, obtain an adequate specimen from endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate one quarter or one half turn in 1 direction. Do not overrotate. 4. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. 5. Swirl brush vigorously as final step to further release material. Discard the brush. 6. Tighten the cap so that the torque line on the cap passes the torque line on the vial. 7. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth).

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**

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<th>Variation</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
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<td>Varies Ambient</td>
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<tr>
<td>Refrigerated</td>
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</tbody>
</table>

**CPT Code Information:** G0123; 88142; 88141-TPSPC (if appropriate);

### ThinPrep with Human Papillomavirus (HPV) Co-Test-Diagnostic

**Specimen Requirements:** Patient Preparation: For optimal interpretation, Papanicolaou smears should be collected near the middle of the menstrual cycle. No douching, lubricant use, and sexual intercourse for 24 hours prior to specimen collection. Only 1 aliquot may be removed from PreservCyt sample vial prior to performing the ThinPrep Pap Test, regardless of the volume of the aliquot (maximum aliquot volume=4 mL). Submit only 1 of the following specimens: Specimen Type: Cervical Supplies: ThinPrep Media with Broom Kit (T056) Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain adequate sampling from cervix using a broom-like collection device. If desired, use lukewarm water to warm and lubricate the speculum. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times. 2. Rinse the broom as quickly as possible into the PreservCyt solution vial by pushing broom into bottom of vial 10 times, forcing the bristles apart. 3. As a final step, swirl broom vigorously to further release material. Discard the collection device. 4. Tighten cap on vial so that the torque line on the cap passes the torque line on the vial. 5. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth). Specimen Type: Ectocervix and endocervix Supplies: ThinPrep Media with Spatula and Brush Kit (T434) Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm water to warm and lubricate the speculum. Select contoured end of plastic spatula and rotate it 360 degrees around the entire exocervix while maintaining tight contact with exocervical surface. 2. Rinse spatulas quickly as possible into the PreservCyt solution vial by swirling spatula vigorously in vial 10 times. Discard the spatula. 3. Next, obtain an adequate specimen from endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate one-quarter or one-half turn in 1 direction. Do not overrotate. 4. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. 5. Swirl brush vigorously as final step to further release material. Discard the brush. 6. Tighten the cap so that the torque line on the cap passes the torque line on the vial. 7. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth).

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**

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<th>Temperature</th>
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CPT Code Information: G0123; 88142; 88141-TPDPC (if appropriate);

**STPCO 70337**

**ThinPrep with Human Papillomavirus (HPV) Co-Test-Screen**

**Specimen Requirements:** Patient Preparation: For optimal interpretation, Papanicolaou smears should be collected near the middle of the menstrual cycle. No douching, lubricant use, and sexual intercourse for 24 hours prior to specimen collection. Only 1 aliquot may be removed from PreservCyt sample vial prior to performing the ThinPrep Pap Test, regardless of the volume of the aliquot (maximum aliquot volume: 4 mL). Submit only 1 of the following specimens: Supplies: Thin Prep Media with Broom Kit (T056) Specimen Type: Cervical Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain adequate sampling from cervix using a broom-like collection device. If desired, use lukewarm water to warm and lubricate the speculum. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction 5 times. 2. Rinse the broom as quickly as possible into the PreservCyt solution vial by pushing broom into bottom of vial 10 times, forcing the bristles apart. 3. As a final step, swirl broom vigorously to further release material. Discard the collection device. 4. Tighten cap on vial so that the torque line on the cap passes the torque line on the vial. 5. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth). Supplies: Thin Prep Media with Spatula and Brush Kit (T434) Specimen Type: Ectocervix and endocervix Collection Container/Tube: ThinPrep Specimen Volume: 16 mL Collection Instructions: 1. Obtain an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm water to warm and lubricate the speculum. Select contoured end of plastic spatula and rotate it 360 degrees around the entire exocervix while maintaining tight contact with exocervical surface. 2. Rinse spatulas quickly as possible into the PreservCyt solution vial by swirling spatula vigorously in vial 10 times. Discard the spatula. 3. Next, obtain an adequate specimen from endocervix using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate one-quarter or one-half turn in 1 direction. Do not overrotate. 4. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. 5. Swirl brush vigorously as final step to further release material. Discard the brush. 6. Tighten the cap so that the torque line on the cap passes the torque line on the vial. 7. Specimen vial must be labeled with a minimum of 2 unique identifiers (patient's name and medical record number or date of birth).

Specimen Minimum Volume: See Specimen Required

Transport Temperature:

- Varies Ambient (preferred) 42 days
- Refrigerated 42 days

CPT Code Information: G0123; 88142; 88141-TPSPC (if appropriate);

**FFTIO 57708**

**Thiocyanate, serum**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in plastic vial. Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in plastic vial.

Specimen Minimum Volume: 0.50 mL Does not allow for repeat testing

Transport Temperature:

- Varies Refrigerated (preferred) 14 days

CPT Code Information: G0123; 88142; 88141-TPSPC (if appropriate);
### TPMT 65188

**Thiopurine Methyltransferase (TPMT) Activity Profile, Erythrocytes**

**Specimen Requirements:** Patient Preparation: Thiopurine methyltransferase (TPMT) enzyme activity can be inhibited by several drugs and may contribute to falsely low results. Patients should abstain from the following drugs for at least 48 hours prior to TPMT testing: naproxen (Aleve), ibuprofen (Advil, Motrin), ketoprofen (Orudis), furosemide (Lasix), sulfasalazine (Azulfidine), mesalamine (Asacol), olsalazine (Dipentum), mefenamic acid (Ponstel), trimethoprim (Proloprim), methotrexate, thiazide diuretics, and benzoic acid inhibitors. Container/Tube: Preferred: EDTA Acceptable: Green top (sodium heparin), metal free sodium heparin, lithium heparin, or plasma separator tubes Specimen Volume: 5 mL

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 6 days
- Ambient 6 days

**CPT Code Information:** 84430

### TPNUV 65160

**Thiopurine Methyltransferase (TPMT) and Nudix Hydrolase (NUDT15) Genotyping, Varies**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: One swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient 30 days Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
- Varies

**CPT Code Information:** 82657

### FFTHO 90480

**Thiosulfate, Urine**

**Specimen Requirements:** Send 6 mL from a random urine collection. Send specimen
refrigerated in a plastic (preservative-free) urine container.

**Specimen Minimum Volume:** 2.8 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 30 days
  - Frozen 90 days
  - Ambient 72 hours

**CPT Code Information:** 82542 â€“ Chromatography, quantitative, column; 82570 â€“ Creatinine; other source; 81002 â€“ Specific gravity; non-automated, without microscopy (if appropriate); ;

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**Thiothixene (Navane)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 14 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80342

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**Thrombin Time (Bovine), Plasma**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen immediately at < or =-40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma Na Cit Frozen 14 days

**CPT Code Information:** 85670

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**Thrombin-Antithrombin Complex**

**Specimen Requirements:** Draw blood in a light-blue top (sodium citrate) tube. Spin down and send 1 mL citrated plasma frozen in plastic vial. Note: Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 0.5 mL
Transport Temperature:
Plasma Na Cit Frozen

CPT Code Information: 83520

**THRMP 83093**

**Thrombophilia Profile**

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Both blood and plasma are required. Specimen Type: Whole blood Container/Tube: Preferred: Yellow top (ACD) Acceptable: EDTA, sodium citrate Specimen Volume: 6 mL Collection Instructions: 1. Invert several times to mix blood. 2. Do not transfer blood to other containers. 3. Label specimen as whole blood. Patient Preparation: 1. Patient should not be receiving Coumadin, heparin, direct thrombin inhibitors (argatroban, dabigatran), or direct factor Xa inhibitors (apixaban, rivaroxaban, and edoxaban). 2. Specimen must be drawn prior to initiation of anticoagulants and thrombolytic therapy. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Polypropylene vials Specimen Volume: 6 mL in 6 Polypropylene vials each containing 1 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimen aliquots immediately at or below -40°C, if possible. 3. Label specimens as plasma. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back.

**Specimen Minimum Volume:** Whole Blood: 3 mL Plasma: 5 mL in 5 polypropylene vials each containing 1 mL

**Transport Temperature:**
Plasma Na Cit Frozen 14 days
Whole blood Ambient (preferred) 7 days
Frozen 14 days
Refrigerated 14 days

**CPT Code Information:** 81240-F2 (prothrombin, coagulation factor II) (eg, hereditary hypercoagulability) gene analysis, 20210G->A variant; 85300-AT activity; 85303-Protein C activity; 85306-Protein S antigen, free; 85307-Activated protein resistance V; 85366-Soluble fibrin monomer; 85379-D-Dimer; 85384-Fibrinogen; 85390-26-Special coagulation interpretation; 85610-PT; 85613-DRVVT; 85670-Thrombin time; 85730-APTT; 81241-F5 (coagulation factor V) (eg, hereditary hypercoagulability) gene analysis, Leiden variant (if appropriate); 85210-Factor II (if appropriate); 85220-Factor V (if appropriate); 85230-Factor VII (if appropriate); 85240-Factor VIII (if appropriate); 85250-Factor IX (if appropriate); 85260-Factor X (if appropriate); 85270-Factor XI (if appropriate); 85280-Factor XII (if appropriate); 85301-Antithrombin antigen (if appropriate); 85302-Protein C antigen (if appropriate); 85303-Protein S antigen, total (if appropriate); 85306-Protein S activity (if appropriate); 85335-Bethesda titer (if appropriate); 85335-Factor VIII inhibitor screen (if appropriate); 85597-Platelet neutralization for lupus inhibitor (if appropriate); 85598-Staclot LA (if appropriate); 85611-PT mix 1:1 (if appropriate); 85613-DRVVT mix (if appropriate); 85613-DRVVT confirmation (if appropriate); 85635-Reptilase time (if appropriate); 85732-APTT mix 1:1 (if appropriate);

**FFTPO 57822**

**Thrombopoietin (TPO)**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL
**Transport Temperature:**
Serum Frozen 30 days

**CPT Code Information:** 83520

**THYM**

82606

**Thyme, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
Specimen Volume: 0.5 mL for each 5 allergens requested
Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**TGAB**

84382

**Thyroglobulin Antibody, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.
Container/Tube: Red top
Specimen Volume: 0.6 mL
Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.
Additional Information: If thyroglobulin tumor marker testing is desired, do not order this test; order HTG2 / Thyroglobulin, Tumor Marker, Serum, which includes both thyroglobulin and thyroglobulin antibody or HTGR / Thyroglobulin, Tumor Marker Reflex to LC-MS/MS or Immunoassay, depending on caregiver’s preference.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 7 days
Frozen 30 days

**CPT Code Information:** 86800

**THYR**

70565

**Thyroglobulin Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated
CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**Thyroglobulin Mass Spectrometry, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1.25 mL

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
- Frozen 416 days
- Ambient 72 hours

CPT Code Information: 84432

**Thyroglobulin, Tumor Marker Reflex to LC-MS/MS or Immunoassay**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Red top Specimen Volume: 1 mL

Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1.0 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 7 days
- Frozen 30 days

CPT Code Information: 86800

**Thyroglobulin, Tumor Marker, Fine-Needle Aspiration (FNA)-Needle Wash, Lymph Node**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Plain, plastic, screw-top tube Specimen Volume: 1 to 1.5 mL Collection Instructions: 1. Needle wash specimens for analysis should be collected in conjunction with cytology specimens. 2. Have saline available prior to start of procedure. Saline is the only acceptable solution for needle washings. 3. After each fine-needle aspiration biopsy (FNAB) has been collected and the material in the needle has been expelled onto a slide for cytologic analysis, attach the used FNAB needle to an empty syringe. 4. Withdraw between 0.10 mL and 0.25 mL of saline up through the needle until the saline starts to fill the hub of the needle or end of the syringe. 5. Expel this fluid back through the needle into a separate plastic screw-top tube. This is the needle washing used for analysis. 6. Repeat steps 2 through 4 for each needle pass of the same biopsied site and empty into the same tube, accumulating a total of 0.5 mL to 1.5 mL of fluid to send to the laboratory. (If more than 1 site is biopsied, see Additional Information) 7. Inspect specimen for visible blood or tissue contamination: -a. If bloody, centrifuge specimen and transfer supernatant to a new plastic aliquot tube (5-mL standard tube) to send to laboratory. The supernatant, not the cellular material, is used for analysis. -b. If specimen is clear, centrifugation is not necessary. 8. Refrigerate within 1 to 2 hours of collection. Send specimen frozen (preferred) or refrigerate to Mayo Medical
Laboratories for analysis. Additional Information 1. If more than 1 site is biopsied, each washing material should be submitted on a separate tube and under a different order number. 2. A minimum of 0.5 mL is required for testing; however, the total collection volume should not exceed 1.5 mL. Sample volumes outside these parameters may be rejected. 3. Do not send saline control. This test has been validated to rule-out saline matrix effect.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Fine Needle Wash: Frozen (preferred) 90 days
- Refrigerated: 14 days

**CPT Code Information:** 84432

**HTG2**

**Thyroglobulin, Tumor Marker, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Red top Submission Container/Tube: Plastic screw-top aliquot tube Specimen Volume: 1 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Red: Refrigerated (preferred) 7 days
- Frozen: 30 days

**CPT Code Information:** 84432-Thyroglobulin, tumor marker; 86800-Thyroglobulin antibody screen;

**TAB**

**Thyroid Autoantibodies Profile, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Serum Red: Refrigerated (preferred) 7 days
- Frozen: 30 days

**CPT Code Information:** 86376-Thyroperoxidase antibody; 86800-Thyroglobulin antibody ;

**THSCM**

**Thyroid Function Cascade, Serum**

**Specimen Requirements:** Patient Preparation: In patients receiving therapy with high biotin doses (ie, >5 mg/day), no specimen should be taken until at least 8 hours after the last biotin administration. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes
should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

- Serum Refrigerated (preferred)  7 days
  - Frozen                  30 days
  - Ambient                72 hours

**CPT Code Information:** 84443-Thyroid-stimulating hormone-sensitive (s-TSH); 84439-T4 (thyroxine), free (if appropriate); 84480-T3 (triiodothyronine), total (if appropriate); 86376-Thyroperoxidase (TPO) antibodies (if appropriate);

**TTF8G**

**Thyroid Transcription Factor (8G7G3/1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

- TECHONLY Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**TTFSP**

**Thyroid Transcription Factor (SPT24) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

- TECHONLY Ambient (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**TTFK5**

**Thyroid Transcription Factor 1 (TTF1) (SPT24) + Keratin 5/6 (KRT5/6) Immunostain, Technical Component**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88344-TC

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**TSH**

**Thyroid-Stimulating Hormone (TSH), Beta Immunostain, Technical Component Only**

**Specimen Requirements:**
Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient
(preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**STSH**

**Thyroid-Stimulating Hormone-Sensitive (s-TSH), Serum**

**Specimen Requirements:**
Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 30 days
Ambient 7 days

**CPT Code Information:** 84443

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**TSI**

**Thyroid-Stimulating Immunoglobulin (TSI), Serum**

**Specimen Requirements:**
Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
Serum Frozen (preferred) 60 days
Refrigerated 7 days
TPO

81765

Thyroperoxidase (TPO) Antibodies, Serum

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube: Red top Specimen Volume: 0.6 mL Collection Instructions: Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 84445

THYRO

81797

Thyrotropin Receptor Antibody, Serum

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Container/Tube:Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 86376

TBGI

9263

Thyroxine-Binding Globulin (TBG), Serum

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 83520

T4BPE

38507

Thyroxine-Binding Protein Electrophoresis, Serum

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take...
multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1.6 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 14 days

**CPT Code Information:** TBPE: 82664; T4: 84436;

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**Tiagabine (Gabitril), Serum**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 180 days
Ambient 72 hours

**CPT Code Information:** 80199

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**Tick-Borne Disease Antibodies Panel, Serum**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: 5-mL aliquot tube (T465) Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.7 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 10 days
Frozen 14 days

**CPT Code Information:** 86618; 86666 x 2; 86753; 86617 x 2-Lyme disease Western blot (if appropriate);

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**Tick-Borne Panel, Molecular Detection, PCR, Blood**

**Specimen Requirements:** Container/Tube: Lavender top (EDTA) Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 7 days
Frozen 7 days
CPT Code Information: 87798 x 8

**FFTIC**

**Ticlopidine, Serum/Plasma**

**Specimen Requirements:** Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s). (Serum gel tube is not acceptable.) Spin down and send 1 mL of serum refrigerate in preservative-free plastic vial. Note: Label specimen appropriately (serum). Plasma Draw blood in a purple-top (EDTA) tube(s). (Plasma gel tube is not acceptable.) Spin down and send 1 mL of EDTA plasma refrigerate in preservative-free plastic vial. Note: Label specimens appropriately (plasma).

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Varies Refrigerated (preferred) 16 days
- Frozen 60 days

CPT Code Information: 80375

**FFTIL**

**Tilapia IgE**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

CPT Code Information: 86003

**TIMG**

**Timothy Grass, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**FFTIB**

**Tin, Blood**
Specimen Requirements: Draw blood in a royal blue-top (metal free EDTA) tube. Send 2 mL metal free EDTA whole blood refrigerated.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Whole Blood EDTA - Metal Free (ERB) Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

CPT Code Information: 83018

Tin, Serum

Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a metal free tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of metal free serum refrigerated in a plastic vial. Plasma Draw blood in an EDTA metal-free royal blue-top tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL metal-free EDTA plasma refrigerated in a plastic vial.

Specimen Minimum Volume: 0.25 mL

Transport Temperature: Varies Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

CPT Code Information: 83018

Tissue Drug Screen

Specimen Requirements: 50 grams of tissue in sterile container, frozen immediately.

Specimen Minimum Volume: 2 grams

Transport Temperature:
Tissue Frozen (preferred) 180 days
- Refrigerated 14 days

CPT Code Information: 80307

Tissue Processing (Bill Only)

Specimen Requirements: This test is for Billing Purposes Only. This is not an orderable test.

Transport Temperature: Varies Varies

CPT Code Information: 87176
**Tissue Transglutaminase (tTG) Antibodies, IgA and IgG Profile, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days

**CPT Code Information:** 83516 x 2

**Tissue Transglutaminase (tTG) Antibody, IgA, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days

**CPT Code Information:** 83516

**Tissue Transglutaminase (tTG) Antibody, IgG, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 14 days

**CPT Code Information:** 83516

**Titanium, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184)
- Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173)
- Specimen Volume: 1.2 mL
- Collection Instructions: 1. Allow specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
- Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a
specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 7 days

**CPT Code Information:** 83018

### TLE1

**70567**

**TLE-1 Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

### FNFAS

**57889**

**TNF-alpha (TNF-a) Serum**

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 1 mL Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Frozen 365 days

**CPT Code Information:** 83520

### TNFRZ

**35561**

**TNFRSF1A Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
TOBAC 82620

**Tobacco, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL} \) dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 81479- Unlisted molecular pathology procedure code

TOBPA 37063

**Tobramycin, Peak, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum for a peak level should be drawn 30 to 60 minutes after last dose. 2. Serum gel tubes should be centrifuged within 2 hours of collection. 3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 86003

TOBRA 37065

**Tobramycin, Random, Serum**

**Specimen Requirements:** Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 28 days
TOBTA

Tobramycin, Trough, Serum

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top
Specimen Volume: 0.5 mL Collection Instructions: 1. Draw blood no more than 30 minutes before next scheduled dose. 2. Serum gel tubes should be centrifuged within 2 hours of collection. 3. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 28 days
- Ambient 72 hours

CPT Code Information: 80200

FHIPPE

Toluene as Hippuric Acid, Occupational Exposure, Urine

**Specimen Requirements:** 10 mL aliquot of random or spot urine collected at end of shift. Send specimen refrigerated. Tubes should be filled to prevent loss of volatile compound into headspace.

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 180 days

CPT Code Information: 83921/Organic acid, single, quantitative; 82570/Creatinine, other source;

FFTOL

Toluene, Occupational Exposure, Serum

**Specimen Requirements:** Draw blood in 2 green top (sodium heparin) tubes. Tubes should be filled to prevent loss of volatile compound into headspace. Send 20 mL of sodium heparin whole blood refrigerated.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- WB Sodium Heparin Refrigerated (preferred) 14 days
- Frozen 365 days

CPT Code Information: 84600

FFTOL

Toluene, Occupational Exposure, Serum

**Specimen Requirements:** Draw blood in 2 green top (sodium heparin) tubes. Tubes should be filled to prevent loss of volatile compound into headspace. Send 20 mL of sodium heparin whole blood refrigerated.

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- WB Sodium Heparin Refrigerated (preferred) 14 days
- Frozen 365 days

CPT Code Information: 84600
Specimen Requirements: Submit only 1 of the following specimens: Serum Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin tubes immediately and fill 2 transfer tubes completely to prevent loss of volatile compound into headspace. Send 20 mL of serum refrigerated. Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin tubes immediately and fill 2 transfer tubes completely to prevent loss of volatile compound into headspace. Send 20 mL sodium heparin plasma refrigerated.

Specimen Minimum Volume: 2.5 mL

Transport Temperature:
- Varies
- Refrigerated (preferred) 14 days
- Frozen 180 days

CPT Code Information: 84600

FMATG
57628

Tomato IgG

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

CPT Code Information: 86001

TOMA
82695

Tomato, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

TOPI
81546

Topiramate, Serum

Specimen Requirements: Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Serum must be separated from cells within 2 hours of drawing.

Specimen Minimum Volume: 0.5 mL
**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
- Ambient: 28 days
- Frozen: 28 days

**CPT Code Information:** 80201

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**ToRCH Profile IgG, Serum**

**Specimen Requirements:**
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 14 days

**CPT Code Information:** 86644-CMV; 86695-Herpes simplex, type 1; 86696-Herpes simplex, type 2; 86762-Rubella; 86777-Toxoplasma;

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**ToRCH Profile IgM, Serum**

**Specimen Requirements:**
- Collection Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Submission Container/Tube: Aliquot tube
- Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 14 days

**CPT Code Information:** 86645-CMV IgM; 86694-HSV IgM; 86778-Toxoplasma IgM;

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**Toxocara Antibody, ELISA (Serum)**

**Specimen Requirements:**
- Specimen Type: Serum
- Container/Tube: Red or SST
- Specimen Volume: 1 mL
- Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 1 mL of serum refrigerate in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 30 days
- Ambient: 7 days

**CPT Code Information:** 86682
**Toxoplasma gondii Antibody, IgG, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86777

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**Toxoplasma gondii Antibody, IgM and IgG (Separate Determinations), Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Aliquot tube Specimen Volume: 1.5 mL

**Specimen Minimum Volume:** 1.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86778-Toxoplasma IgM; 86777-Toxoplasma IgG;

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**Toxoplasma gondii Antibody, IgM, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Aliquot tube Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86778;

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**Toxoplasma Gondii IgG and IgM, CSF**

**Specimen Requirements:** 1 mL of spinal fluid (CSF) sent refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
- Frozen 30 days
- Ambient 7 days

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**Current as of October 16, 2018 7:53 pm CDT**
**CPT Code Information:** 86777/IgG; 86778/IgM;

### **PTOX 81795**

**Toxoplasma gondii, Molecular Detection, PCR**

**Specimen Requirements:** Submit only 1 of the following specimens:
- **Specimen Type:** Amniotic fluid
  - Container/Tube: Amniotic fluid container
  - Specimen Volume: 0.5 mL
  - Collection Instructions: Do not centrifuge.
- **Specimen Type:** Spinal fluid
  - Supplies: Aliquot Tube, 5 mL (T465)
  - Container/Tube: Preferred: 12 x 75-mm screw cap vial (T465)
  - Acceptable: Sterile vial
  - Specimen Volume: 0.5 mL
  - Collection Instructions: Do not centrifuge.
- **Specimen Type:** Fresh tissue
  - Supplies: M4-RT (T605)
  - Container/Tube: Preferred: Multimicrobe Medium (M4-RT) (T605)
  - Acceptable: Sterile container with 1 to 2 mL of sterile saline
  - Specimen Volume: Entire collection
  - Collection Instructions: Submit only fresh tissue in a sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4, or M5)
- **Specimen Type:** Ocular fluid
  - Supplies: Aliquot Tube, 5 mL (T465)
  - Container/Tube: 12 x 75-mm screw cap vial (T465)

**Specimen Minimum Volume:**
- Amniotic Fluid: 0.3 mL
- Ocular Fluid: 0.3 mL
- Spinal Fluid: 0.3 mL
- Tissue: 2 x 2mm biopsy

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

### **TOXB 62977**

**Toxoplasma gondii, Molecular Detection, PCR, Blood**

**Specimen Requirements:**
- Container/Tube: Lavender top (EDTA)
- Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole Blood EDTA Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

### **TOXO 70569**

**Toxoplasma Immunostain, Technical Component Only**

**Specimen Requirements:**
- Supplies: Immunostain Technical Only Envelope (T693)
- Specimen Type: Tissue
  - Container/Tube: Immunostain Technical Only Envelope (T693)
  - Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick.
  - Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient
  - (preferred)
  - Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;
**TP53 Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81405-TP53 (tumor protein 53) (eg, Li-Fraumeni syndrome, tumor samples), full gene sequence or targeted sequence analysis of >5 exons; ; Hereditary Colon Cancer CGH Array; 81228-Cytogenomic constitutional (genome-wide) microarray analysis; interrogation of genomic regions for copy number variants (eg, Bacterial Artificial Chromosome [BAC] or oligo-based comparative genomic hybridization [CGH] microarray analysis);

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**Tragacanth, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Tramadol and Metabolite, Random Urine**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Plastic urine container Submission Container/Tube: Aliquot Tube, 5 mL (T465) Specimen Volume: 2 mL Collection Instructions: No preservative.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Ambient 14 days
- Frozen 14 days

**CPT Code Information:** 80373; G0480 (if appropriate);
**TFE3I**

**Transcription Factor E3 (TFE3) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**

TECHONLY Ambient

(preferred)

Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**TRSF**

**Transferrin, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**

Serum Refrigerated (preferred) 7 days

Frozen 180 days

Ambient 7 days

**CPT Code Information:** 84466

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**FGFB**

**Transforming Growth Factor beta, Serum**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and immediately freeze and send 1 mL of serum in a plastic vial. Note: Critical frozen. Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**

Serum Frozen 365 days

**CPT Code Information:** 83520

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**TACIF**

**Transmembrane Activator and CAML Interactor (TACI) Gene, Full Gene Analysis**

**Specimen Requirements:** Multiple whole blood EDTA genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Container/Tube: Lavender top (EDTA)
Specimen Volume: 3 mL Collection Instructions: Send specimen in original tube.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Whole Blood EDTA  Ambient (preferred)  Refrigerated

**CPT Code Information:** 81479-Unlisted molecular pathology procedure

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**FFTRZ 75024**

**Trazodone (Desyrel)**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Serum Red  Refrigerated (preferred)  14 days

Frozen  180 days

Ambient  72 hours

**CPT Code Information:** 80338

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**FHEAV 57949**

**Tree of Heaven (Ailanthus spp) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  28 days

Frozen  365 days

Ambient  28 days

**CPT Code Information:** 86003

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**TREE1 81886**

**Tree Panel # 1**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Serum Refrigerated (preferred)  14 days

Frozen  90 days
**CPT Code Information:** 86003

**TREE2 81703**

**Tree Panel # 2**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**TREE3 81704**

**Tree Panel # 3**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**TREE4 81705**

**Tree Panel # 4**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

**TREPE 70571**

**Treponema pallidum Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**Triazolam (Halcion)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Refrigerated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

CPT Code Information: 80346; G0480 (if appropriate);

**Trichinella Antibody, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.15 mL

**Transport Temperature:**
- Serum Frozen (preferred) 30 days
- Refrigerated 5 days

CPT Code Information: 86784

**Trichloroacetic Acid, Urine**

**Specimen Requirements:** Submit a 10 mL aliquot from a random or spot urine collected at end of shift, end of exposure, or end of workweek. Send specimen refrigerated.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 180 days

CPT Code Information: 83921 â€“ Organic acid, single, quantitative; 82570 â€“ Creatine, other source;

**Trichoderma viride, IgE**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL: For more than 1 allergen: \((0.05 \text{ mL} \times \text{number of allergens}) + 0.25 \text{ mL} \) dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

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**Trichomonas vaginalis by Nucleic Acid Amplification**

**Specimen Requirements:** This test is performed only on female patients. Specimen source is required. Swab specimen must be collected using an APTIMA Collection Unisex Swab (T583) or APTIMA Collection Vaginal Swab (T584). These swabs are contained in the APTIMA Collection Kit. Submit only 1 of the following specimens: Specimen Type: Endocervix Container/Tube: APTIMA Collection Unisex Swab (T583) Specimen Volume: Adequate amount Collection Instructions: 1. Use cleaning swab (white shaft) to remove excess mucus from endocervix and discard. 2. Insert second swab (blue shaft) 1 to 1.5 cm into endocervical canal, and rotate swab gently for 30 seconds. Avoid touching vaginal wall when removing swab. 3. Place second swab (blue shaft) into APTIMA transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 4. Cap tube securely, and label tube with patient's entire name, and date and time of collection. Specimen Stability Information: Transport and store swab container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for up to 180 days. Specimen Type: Vaginal Container/Tube: APTIMA Collection Vaginal Swab (T584) Specimen Volume: Adequate amount Collection Instructions: 1. Insert swab (pink shaft) about 5 cm past introitus and rotate gently for 30 seconds. 2. Place swab into APTIMA transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 3. Cap tube securely, and label tube with patient's entire name, and date and time of collection. Specimen Stability Information: Transport and store swab container at 2 to 30°C (refrigerate is preferred temperature) within 60 days of collection. If longer storage is needed, freeze at -20 to -70°C for up to 180 days. Specimen Type: Urine Container/Tube: APTIMA Urine Specimen Transport Tube (T582) Specimen Volume: 15-20 mL Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to specimen collection. 2. Patient should collect first portion of random voided urine (first part of stream) into a sterile, plastic, preservative-free container. 3. Transfer 2 mL of urine into the APTIMA urine specimen transport tube using the disposable pipette provided within 24 hours of collection. The correct volume of urine has been added when the fluid level is between the black fill lines on the APTIMA urine transport tube. Place the labels on the transport tube so the black fill lines are still visible for volume confirmation at Mayo Medical Laboratories. Specimen Stability Information: Transport and store urine specimen transport tube at 2 to 30 degrees C (refrigerate is preferred temperature) within 30 days of collection. If longer storage is needed, freeze at -20 to -70°C for up to 180 days. Specimen Type: ThinPrep Specimen (Endocervix) Container/Tube: ThinPrep (also called PreservCyt) Collection Kit Specimen Volume: 1 mL Collection Instructions: 1. Aliquot ThinPrep specimen for Trichomonas and/or Chlamydia and/or Neisseria testing before processing for Pap smear. For each specimen, use a new pair of clean gloves. 2. Vortex ThinPrep/PreservCyt vial 3 to 10 seconds. Within 1 minute of vortexing: A. Transfer 1 mL of specimen into the APTIMA Specimen Transfer Tube (T652) using a disposable transfer pipette or a pipette tip containing a filter (aerosol barrier or hydrophobic plug). B. Process only 1 ThinPrep and transfer tube set at a time. C. Recap APTIMA Specimen Transfer Tube tightly and gently invert 3 times to mix. 3. Label APTIMA transfer tube with appropriate label. 4. Use remainder of ThinPrep specimen for Pap testing. Specimen Stability Information: Transport and store urine specimen transport tube at 2 to 30 degrees C (refrigerate is preferred temperature) within 30 days of collection. If longer storage is needed, freeze at -20 to -70°C for up to 180 days.
**Specimen Minimum Volume:** The correct volume of urine has been added when the fluid level is between the black fill lines on the urine transport tube.

**Transport Temperature:**
- Varies Refrigerated (preferred)
  - Frozen: 180 days
  - Ambient

**CPT Code Information:** 87661

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**MTRNA 61756**

**Trichomonas vaginalis, Miscellaneous Sites, by Nucleic Acid Amplification**

**Specimen Requirements:** This test is performed only on male patients. Specimen source is required. Swab specimen (urethral) must be collected using an APTIMA Collection Unisex Swab (T583). These swabs are contained in the APTIMA Collection Kit. Submit only 1 of the following specimens: Specimen Type: Urine Container/Tube: APTIMA Urine Specimen Transport Tube (T582) Specimen Volume: 15-20 mL Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to specimen collection. 2. Patient should collect first portion of random voided urine (first part of stream) into a sterile, plastic, preservative-free container. 3. Transfer 2 mL of urine into the APTIMA urine specimen transport tube using the disposable pipette provided within 24 hours of collection. The correct volume of urine has been added when the fluid level is between the black fill lines on the APTIMA urine transport tube. Specimen Type: Urine (following prostatic massage) Container/Tube: APTIMA Urine Specimen Transport Tube (T582) Specimen Volume: 15-20 mL Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to specimen collection. 2. Patient should void a small amount of urine prior to prostatic massage. Pre-massage urine can be discarded or submitted for other testing as applicable. 3. Patient then ceases voiding and a prostatic massage is performed by the urologist or other health care professional. 4. Collect post-massage urine into a sterile, plastic, preservative-free container. 5. Transfer 2 mL of post-massage urine specimen into the APTIMA urine specimen transport tube using the disposable pipette provided within 24 hours of collection. The correct volume of urine has been added when the fluid level is between the black fill lines on the APTIMA urine transport tube. Specimen Type: Urethra Container/Tube: APTIMA Collection Unisex Swab (T583) Specimen Volume: Swab Collection Instructions: 1. Patient should not have urinated for at least 1 hour prior to collection. 2. With a rotating movement, insert swab (blue shaft) 2 to 4 cm into urethra. 3. Once inserted, rotate swab gently at least 1 full rotation using sufficient pressure to ensure swab comes into contact with all urethral surfaces. Allow swab to remain inserted for 2 to 3 seconds. 4. Place swab in the APTIMA transport tube provided in collection kit. Snap off swab at score line so swab fits into closed tube. 5. Cap tube securely, and label tube with patient's entire name, and date and time of collection.

**Specimen Minimum Volume:** The correct volume of urine has been added when the fluid level is between the black fill lines on the urine transport tube.

**Transport Temperature:**
- Varies Refrigerated (preferred) 30 days
  - Ambient 30 days

**CPT Code Information:** 87661

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**TCPT 82720**

**Trichophyton rubrum, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**TRPU 82386**

**Trichosporon pullulans, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

**CPT Code Information:** 86003

**TGLBF 61647**

**Triglycerides, Body Fluid**

**Specimen Requirements:** Collection Container/Tube: Sterile container Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: Centrifuge to remove any cellular material.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid Frozen (preferred) 30 days
  - Refrigerated 7 days
  - Ambient 24 hours

**CPT Code Information:** 84478

**TRIGC 21090**

**Triglycerides, CDC, Serum**

**Specimen Requirements:** Only orderable as part of a profile. For more information see LMPP / Lipoprotein Metabolism Profile.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
  - Frozen 60 days
TRIGN 113636

TRIGLYCERIDES, NON-FASTING, SERUM

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

TRIG 8316

TRIGLYCERIDES, SERUM

**Specimen Requirements:** Patient Preparation: 1. Fasting-overnight (12-14 hours) 2. Patient must not consume any alcohol for 24 hours before the specimen is drawn. Container/Tube:Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 90 days

TMA 82867

TRIMELLITIC ANHYDRIDE, TMA, IG E

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

TMP 80146

TRIMETHOPRIM, SERUM
Specimen Requirements: Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 1 mL Collection Instructions: 1. Serum for a peak level should be drawn at least 60 minutes after a dose. 2. Spin down within 2 hours of draw.

Specimen Minimum Volume: 0.2 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 28 days
Ambient 28 days
Frozen 28 days

CPT Code Information: 80299

TRMP 64269

Trimipramine, Serum
Specimen Requirements: Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose). 2. Serum must be separated from cells within 2 hours of draw.

Specimen Minimum Volume: 0.25 mL

Transport Temperature:
Serum Red Refrigerated (preferred) 28 days
Frozen 28 days
Ambient 7 days

CPT Code Information: 80335; G0480 (if appropriate);

TPPTF 89540

Tripeptidyl Peptidase 1 (TPP1) and Palmitoyl-Protein Thioesterase 1 (PPT1), Fibroblasts
Specimen Requirements: Submit only 1 of the following specimens: Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin: T115). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

Transport Temperature:
Tissue Varies

CPT Code Information: 82657-TPP1 and PPT1; 88233-Fibroblast culture; 88240-Cryopreservation for biochemical studies;

TPPTL 89494

Tripeptidyl Peptidase 1 (TPP1) and Palmitoyl-Protein Thioesterase 1 (PPT1), Leukocytes
Specimen Requirements: Container/Tube: Preferred: Yellow top (ACD solution B) Acceptable: Yellow top (ACD solution A) Specimen Volume: 6 mL Collection Instructions: Do not transfer blood to
other containers.

**Specimen Minimum Volume:** 5 mL  
**Transport Temperature:**  
Whole Blood ACD Refrigerated (preferred) 6 days  
Ambient 72 hours

**CPT Code Information:** 82657

- **Trofile Co-Receptor Tropism Assay**  
  **Specimen Requirements:** Draw blood in either PPT (pearl top) or lavender-top (EDTA) tubes. Remove plasma from cells immediately, and transfer specimen to a screw-capped, plastic vial. Freeze 3 mL of PPT plasma or EDTA plasma immediately, send specimen frozen. RECOMMENDED: 1. Patient's most recent viral load 2. Viral load collection date Note: 1. Intended to use only for patients with viral loads greater than or equal to 1000 copies/mL. For best results, viral loads should be confirmed within two weeks prior to submission for testing at Monogram. 2. Patient samples submitted <30 days apart are considered duplicate and will be cancelled.

  **Specimen Minimum Volume:** 1 mL  
  **Transport Temperature:**  
  Plasma EDTA Frozen 14 days

  **CPT Code Information:** 87999

- **Trofile DNA Co-Receptor Tropism Assay**  
  **Specimen Requirements:** Draw 4 mL blood in a lavender-top (EDTA) tube(s), (Do not centrifuge.) Freeze and ship frozen. Note: Trofile DNA is recommended for patients with undetectable viral loads.

  **Specimen Minimum Volume:** 3 mL  
  **Transport Temperature:**  
  Whole Blood EDTA Frozen 14 days

  **CPT Code Information:** 87999

- **Tropheryma whippelli, Molecular Detection, PCR**  
  **Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Tropheryma whippelli DNA is unlikely. Submit only 1 of the following specimens: Specimen Type: Fresh tissue or biopsy Sources: Small intestine tissue (duodenum, ileum, or jejunum), lymph node, other visceral tissue, synovial tissue, gastrointestinal tissue, heart valve, or brain Container/Tube: Sterile container Specimen Volume: Entire collection or 5 mm(3) Collection Instructions: Collect fresh tissue specimen Specimen Stability Information: Refrigerated <7 days (preferred)/Frozen <7 days Supplies: Tissue Block Container (T553) Specimen Type: Paraffin-embedded tissue block Sources: Small intestine tissue (duodenum, ileum, or jejunum), lymph node, other visceral tissue, synovial tissue, gastrointestinal tissue, heart valve, or brain Container/Tube: Sterile container for cut sections or Tissue Block Container (T553) Collection Instructions: Submit formalin-fixed, paraffin-embedded tissue block to be cut and returned. Alternately,
perform cuts and place two to five 10-micron sections in a sterile container for submission. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Fluid Sources: Cerebrospinal or ocular (e.g., vitreous humor) Container/Tube: Sterile vial Specimen Volume: 0.5 mL Specimen Stability Information: Refrigerated <7 days (preferred)/Frozen <7 days Specimen Type: Synovial fluid Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container Specimen Volume: 0.5 mL Collection Instructions: Send specimen in original tube (preferred). Specimen Stability Information: Refrigerated <7 days (preferred)/Frozen <7 days

**Specimen Minimum Volume:** Spinal fluid, synovial fluid, or vitreous humor fluid: 0.5 mL Fresh tissue or biopsy: 5 mm(3) Paraffin-embedded tissue block: two 10-micron sections

**Transport Temperature:**

Varies

**CPT Code Information:** 87798

### WHIPB

**87974**

**Tropheryma whipplei, Molecular Detection, PCR, Blood**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Tropheryma whipplei DNA is unlikely. Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot Specimen Volume: 1 mL Collection Instructions: Send specimen in original tube (preferred).

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

Whole Blood EDTA Refrigerated (preferred) 7 days

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**CPT Code Information:** 87798

### TPNI

**81767**

**Troponin I, Serum**

**Specimen Requirements:** Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins. Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**

Serum Frozen (preferred) 30 days

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**CPT Code Information:** 84484
Troponin T, 5th Generation, Plasma

Specimen Requirements: Collection Container/Tube: Preferred: Lithium heparin gel
Acceptable: Lithium heparin Submission Container/Tube: Plastic vial Specimen Volume: 1 mL
Collection Instructions: 1. Lithium heparin gel tubes should be centrifuged within 2 hours of collection.
2. Plasma from lithium heparin tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Plasma Li Heparin Frozen (preferred) 365 days
Ambient 24 hours
Refrigerated 24 hours

CPT Code Information: 84484

Trout, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Trypanosoma cruzi Antibody, IgG, Serum

Specimen Requirements: Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.2 mL

Transport Temperature:
Serum Frozen (preferred) 14 days
Refrigerated 7 days

CPT Code Information: 86753

Trypsin Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block
**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**TRPTS**

**Tryptase Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen
Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

**TRYPA**

**Tryptase, Autopsy**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Frozen (preferred) 14 days
Refrigerated 14 days

**CPT Code Information:** 83520

**TRYPT**

**Tryptase, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Frozen (preferred) 14 days
Refrigerated 14 days

**CPT Code Information:** 83520

**TRYPP**

**Tryptophan, Plasma**
Specimen Requirements: Patient Preparation: Fasting (overnight preferred, 4 hours minimum). Infants should be drawn just before next feeding (2-3 hours without total parenteral nutrition [TPN] if possible). Collection Container/Tube: Preferred: Green top (sodium heparin) Acceptable: EDTA Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Centrifuge within 4 hours if specimen is stored at refrigerated temperature and aliquot plasma. Send plasma frozen.

Specimen Minimum Volume: 0.3 mL

Transport Temperature:
Plasma Frozen 14 days

CPT Code Information: 82131

TRYPU
83823

Tryptophan, Urine

Specimen Requirements: Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 2 mL Collection Instructions: Collect a random urine specimen. Additional Information: 1. Patient's age is required. 2. Include family history, clinical condition (asymptomatic or acute episode), diet, and drug therapy information.

Specimen Minimum Volume: 1 mL

Transport Temperature:
Urine Frozen (preferred) 70 days
Refrigerated 14 days

CPT Code Information: 82131

TTF40
602647

TTF41 (SPT24) + p40 Immunostain, Technical Component Only

Specimen Requirements: Specimen Type: Tissue Supplies: Immunostain Technical Only Envelope (T693) Container/Tube: Immunostains Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25 x 75 x 1mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88344-TC

ATTRZ
35352

TTR Gene, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Minimum Volume: 0.5 mL
**Transport Temperature:**
- Varies
  - Ambient (preferred)
  - Frozen
  - Refrigerated

**CPT Code Information:** 81404-TTR (transthyretin) (eg, familial transthyretin amyloidosis), full gene sequence

**RTRP1 113477 Tubular Reabsorption of Phosphorus, Random**

**Specimen Requirements:** Both serum and urine are required. Patient Preparation: Fasting
- Specimen Type: Serum Collection Container/Tube: Red top or serum gel
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL
- Collection Instructions: Label specimen as serum. Specimen Type: Urine Container/Tube: Plastic, 6-mL tube
- Specimen Volume: 4 mL
- Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. 3. Label specimen as urine.

**Specimen Minimum Volume:** Urine: 1 mL; Serum: 0.625 mL

**Transport Temperature:**
- Serum Frozen (preferred) 7 days
- Refrigerated 7 days
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
- Ambient 7 days

**CPT Code Information:** 82565-Creatinine Serum; 84100-Phosphorus inorganic (phosphate), serum; 84105-Phosphorus inorganic (phosphate), urine;

**TNFA 63022 Tumor Necrosis Factor (TNF), Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender-top (EDTA)
- Submission Container/Tube: Plastic vial
- Specimen Volume: 0.5 mL
- Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate plasma from cells; 1,500 x g for 10 minutes 3. Freeze specimen within 30 minutes

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 21 days
- Refrigerated 24 hours

**CPT Code Information:** 83520

**TUNA 82547 Tuna, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
- Specimen Volume: 0.5 mL for each 5 allergens requested
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.
**Specimen Minimum Volume**: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature**:  
- Serum Refrigerated (preferred) 14 days  
- Frozen 90 days

**CPT Code Information**: 86003

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**TURKF**  
**Turkey Feathers, IgE**

**Specimen Requirements**:  
- Container/Tube: Preferred: Red top Acceptable: Serum gel  
- Specimen Volume: 0.5 mL for each 5 allergens requested  
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume**: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature**:  
- Serum Refrigerated (preferred) 14 days  
- Frozen 90 days

**CPT Code Information**: 86003

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**FGORG**  
**Turkey IgG**

**Specimen Requirements**:  
- Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable.  
- Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**: 0.5 mL

**Transport Temperature**:  
- Serum Refrigerated (preferred) 28 days  
- Frozen 365 days  
- Ambient 7 days

**CPT Code Information**: 86001

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**TURK**  
**Turkey, IgE**

**Specimen Requirements**:  
- Container/Tube: Preferred: Red top Acceptable: Serum gel  
- Specimen Volume: 0.5 mL for each 5 allergens requested  
- Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume**: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature**:  
- Serum Refrigerated (preferred) 14 days  
- Frozen 90 days
CPT Code Information: 86003

**Turmeric (Curcuma longa) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

CPT Code Information: 86003

**Tyrophagus putrescentiae, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**Tyrosinase (TYROS) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

**Tysabri (Natalizumab) Immunogenicity**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Send 1 mL serum frozen in plastic vial.
UBE3Z

UBE3A Gene, Full Gene Analysis

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:** Varies

**CPT Code Information:** 81406-UBE3A (ubiquitina protein ligase E3A) (eg, Angelman syndrome), full gene sequence; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); ;

UBIQ

Ubiquitin (UBIQ) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:** TECHONLY Ambient (preferred) Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

GALE

UDP-Galactose 4' Epimerase (GALE), Blood

**Specimen Requirements:** Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Green top (sodium heparin), green top (lithium heparin), or yellow top (ACD) Specimen Volume: 5 mL
**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated (preferred) 14 days

Ambient 6 days

**CPT Code Information:** 82542

**UDP-Glucuronosyl Transferase 1A1 (UGT1A1), Full Gene Sequencing**

**Specimen Requirements:** Multiple whole blood EDTA tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens:

- **Specimen Type:** Whole blood Container/Tube: Adults: Lavender top (EDTA) Pediatrics: Purple microtube
- **Specimen Volume:** Adults: 3 mL Pediatrics: 1 mL

Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred) 9 days/Refrigerated 30 days

- **Specimen Type:** Saliva

Patient Preparation: Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786: fees apply) Container/Tube: Saliva Swab Collection Kit (T786)

Specimen Volume: One swab

Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient 30 days

- **Specimen Type:** DNA Container/Tube: 2 mL screw top tube

Specimen Volume: 100 mcL (microliters)

Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.45 mL Saliva: one swab

**Transport Temperature:**
Varies

**CPT Code Information:** 81479

**UDP-Glucuronosyl Transferase 1A1 TA Repeat Genotype, UGT1A1**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens:

- **Specimen Type:** Whole blood Container/Tube: Lavender top (EDTA)

Specimen Volume: 3 mL

Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated

- **Specimen Type:** Saliva

Patient Preparation: Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection. Supplies: DNA Saliva Collection Kit (T786) Container/Tube: Saliva Swab Collection Kit

Specimen Volume: 1 swab

Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Specimen Volume: DNA Container/Tube: 2 mL screw top tube

Specimen Volume: 100 mcL (microliters)

Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
Varies

ULCH
82546

Ulocladium chartarum, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

UNIPD
35566

Uniparental Disomy

Specimen Requirements: For optimal interpretation of results, 3 specimens are required to perform this test. In addition to child or fetal specimen, a blood specimen from both parents is required. Each specimen must have a separate order for Uniparental Disomy (UNIPD / Uniparental Disomy). Only the proband specimen will be charged. Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens:
Specimen Type: Whole blood Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. Specimen Type: Amniotic fluid Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Minimum Volume: Blood: 0.5 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

Transport Temperature:
Varies

CPT Code Information: 81402

UNHB
9095

Unstable Hemoglobin, Blood

Specimen Requirements: Only orderable as part of a profile or as a reflex. For more information see HAEVP / Hemolytic Anemia Evaluation; or HBELC / Hemoglobin Electrophoresis Cascade, Blood; or THEVP / Thalassemia and Hemoglobinopathy Evaluation; or REVE / Erthrocytosis Evaluation; or
MEVP / Methemoglobinemia Evaluation.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Whole Blood EDTA Refrigerated 7 days

**CPT Code Information:** 83068

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**FURA 90316**

**Uranium, Urine**

**Specimen Requirements:** Collect urine in acid washed or trace metal free plastic container (MML supply number T619). Submit 1 mL of urine refrigerate. Note: Avoid exposure to gadolinium based contrast media for 48 hours prior to sample collection.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 16 days
- Frozen 30 days
- Ambient 9 days

**CPT Code Information:** 83018

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**URAU 8330**

**Urea, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL. Collection Instructions: 1. Add 10 g of boric acid as preservative at start of collection. (If boric acid is not available, refrigerate specimen during collection.) 2. Collect urine for 24 hours. 3. Mix well before taking aliquot. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 84540

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**RURAU 89845**

**Urea, Random, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL. Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days
Ureaplasma species, Molecular Detection, PCR

Specimen Requirements: The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Ureaplasma DNA is not likely. Submit only 1 of the following specimens: Supplies: M4-RT (T605) Culturette (BBL Culture Swab) (T092) Specimen Type: Swab Sources: Vaginal, cervix, urethra, urogenital, chest/mediastinal, bronchus (donor swab), or upper respiratory sources (only infants <3 months: nasopharynx, nose, throat) Container/Tube: Preferred: Culture swab transport system (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Acceptable: Swab in transport media: M4, M4-RT (T605), M5, M6, universal transport media, or ESwab Specimen Volume: 1 swab Collection Instructions: Vaginal: 1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells. 2. Place swab back into swab cylinder. Urethra or Cervical: 1. Collect specimen by inserting swab 1 to 3 cm and rotating 360 degrees. 2. Place swab back into swab cylinder. Wound: 1. Collect specimen by swabbing back and forth over wound surface to maximize recovery of cells. 2. Place swab back into swab cylinder. Supplies: M4-RT (T605) Specimen Type: Fluid Sources: Pelvic fluid, amniotic fluid, prostatic secretions, semen, reproductive drainage or fluid, pleural/ chest fluid, chest tube fluid, pericardial fluid, sputum, tracheal secretions, bronchial washings, bronchoalveolar lavage, lung fluid; or nasal washings (only infants <3 months) Container/Tube: Preferred: Sterile container Acceptable: Specimen in 3 mL of transport media: M4, M4-RT (T605), M5, M6, or universal transport media Specimen Volume: 1-2 mL Specimen Type: Synovial Fluid Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container Specimen Volume: 1 mL Collection Instructions: Send specimen in original tube (preferred). Specimen Type: Urine, kidney/bladder stone, or ureter Container/Tube: Sterile container Specimen Volume: 10 mL or entire specimen Specimen Type: Tissue Sources: Placenta, products of conception, respiratory, bronchus, chest/mediastinal, bone, or joint Container/Tube: Sterile container Specimen Volume: 5 mm(3) Collection Instructions: Submit only fresh tissue.

Specimen Minimum Volume: Fluid: 1 mL Urine: 2 mL Swab: 1 swab Tissue: 5 mm(3)

Transport Temperature: Varies Refrigerated (preferred) 7 days

Frozen 7 days

CPT Code Information: 87798 x 2

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com Page 1117
**Ureaplasma species, Molecular Detection, PCR, Plasma**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Ureaplasma DNA is unlikely. Collection Container/Tube: Preferred: Lavender top (EDTA) Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot Submission Container/Tube: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: Centrifuge and separate plasma within 24 hours of collection.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Plasma EDTA Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798 x 2

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**URCU**

**Uric Acid, 24 Hour, Urine**

**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 5 mL Collection Instructions: 1. Add 10 g of boric acid as preservative at start of collection. 2. Collect urine for 24 hours. 3. Mix well before taking 5-mL aliquot. Additional Information: 1. 24-Hour volume is required. 2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 84560

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**FUABF**

**Uric Acid, Body Fluid**

**Specimen Requirements:** Acceptable specimens: Drain, Peritoneal/Ascites, Pleural or Synovial Fluid. Collect 1 mL body fluid, centrifuge and separate to remove cellular material. Send frozen in plastic container.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Body Fluid Frozen (preferred) 180 days
- Refrigerated 5 days
- Ambient 24 hours

**CPT Code Information:** 84560

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**RURCU**

**Uric Acid, Random, Urine**

Current as of October 16, 2018 7:53 pm CDT 800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
**Specimen Requirements:** Container/Tube: Plastic, 5-mL tube (T465) Specimen Volume: 4 mL
Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: A timed 24-hour urine collection is usually the preferred specimen for measuring and interpreting this urinary analyte. Random collections normalized to urinary creatinine may be of clinical use in the following 2 scenarios: 1. In patients who cannot collect a 24-hour specimen, typically small children, a uric acid to creatinine ratio can be used to approximate 24-hour excretion. 2. When acute renal failure secondary to uric acid is suspected, a uric acid to creatinine ratio (mg/mg) >1.0 is consistent with acute uric acid nephropathy, whereas values <0.75 are consistent with other causes of acute renal failure.(1)

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
Urine Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 84560

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**URIC**

**8440**

**Uric Acid, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Submission Container/Tube: Plastic vial Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days
Frozen 180 days

**CPT Code Information:** 84550

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**RUA**

**9308**

**Urinalysis, Complete, Includes Microscopic**

**Specimen Requirements:** Container/Tube: Plastic urine container Specimen Volume: 20 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative.

**Specimen Minimum Volume:** 4 mL

**Transport Temperature:**
Urine Refrigerated 72 hours

**CPT Code Information:** 81001

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**UPGDW**

**31892**

**Uroporphyrinogen Decarboxylase (UPG D), Washed Erythrocytes**

**Specimen Requirements:** All porphyrin tests on erythrocytes can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Abstinence from alcohol is essential for at least 24 hours as alcohol suppresses enzyme activity for 24 hours after ingestion. Collection Container/Tube: Preferred: Green top (heparin) Acceptable: Lavender top (EDTA)
Submission Container/Tube: Plastic vial Specimen Volume: Washed erythrocyte suspension Collection Instructions: Collect and process whole blood specimen as follows: 1. Immediately place specimen on wet ice. 2. Transfer entire specimen to a 12-mL graduated centrifuge tube. 3. Centrifuge specimen for 10 minutes at 2,000 rpm. 4. Record volume of packed cells and the total volume of the specimen. 5. Discard supernatant plasma. 6. Wash erythrocytes 2 times by resuspension with 5 mL of cold 0.9% saline, discarding supernatant after each washing. 7. Resuspend packed cells to the original total volume with 0.9% saline. Invert specimen gently to mix.

**Specimen Minimum Volume:** 1 mL of washed and resuspended erythrocytes

**Transport Temperature:**
Washed RBC  Frozen 24 hours

**CPT Code Information:** 82657

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**UPGD**

**Uroporphyrinogen Decarboxylase (UPG D), Whole Blood**

**Specimen Requirements:** All porphyrin tests on whole blood can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours Container/Tube: Preferred: Green top (sodium heparin) Acceptable: Lavender top (EDTA) or light, green top (lithium heparin) Specimen Volume: Full tube Collection Instructions: Immediately place specimen on wet ice.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
Whole blood  Refrigerated 7 days

**CPT Code Information:** 82657

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**UPGC**

**Uroporphyrinogen III Synthase (Co-Synthase) (UPG III S), Erythrocytes**

**Specimen Requirements:** All porphyrin tests on erythrocytes can be performed on 1 draw tube. Patient Preparation: Patient should abstain from alcohol for 24 hours. Container/Tube: Green top (heparin) Specimen Volume: Full tube Collection Instructions: Immediately place specimen on wet ice.

**Specimen Minimum Volume:** 3 mL

**Transport Temperature:**
WB Heparin  Refrigerated 7 days

**CPT Code Information:** 82657

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**FUROC**

**UroVysion for Detection of Bladder Cancer, Urine**

**Specimen Requirements:** Specimen Type: Urine (voided urine, catheterized urine, bladder washings, stoma collections, ureteral brushings or washings, and renal pelvic brushings or washings) Container/Tube: Preferred: FISH for Urothelial Carcinoma in Urocyte Urine Collection Kit (T509) Acceptable: 70% ethanol, PreservCyt, CytoLyt Specimen Volume: 30 mL Collection Instructions: 1. Specimen source is required on request form. 2. Follow instructions included with Urocyte Urine Collection Kit. 3. If kit is not used, submit a random urine specimen with an equal volume of 70% ethanol, PreservCyt, or CytoLyt. Additional Information: Provide fixative, source, reason for referral (Evaluate for urothelial carcinoma or Hematuria. Evaluate for urothelial carcinoma.) and status of
diagnosis (known previous diagnosis or suspected/unknown).

**Specimen Minimum Volume:** 30 mL is recommended, however, will not reject if <30 mL

**Transport Temperature:**
- Varies
- Refrigerated (preferred)
- Ambient

**CPT Code Information:** 88120

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**USP6 (17p13), Aneurysmal Bone Cyst and Nodular Fasciitis, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens:
- Specimen Type: Tissue
- Preferred: Tissue block
- Container/Tube: Formalin-fixed, paraffin-embedded tumor tissue block
- Collection Instructions: Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used
- Acceptable: Slides
- Specimen Volume: Four consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Minimum Volume:** Two consecutive, unstained, 5-micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue
- Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**Ustekinumab and Anti-Ustekinumab Antibodies, Serum**

**Specimen Requirements:** Specimen Type: SST Serum
- Container/Tube: SST
- Specimen Volume: 7 mL
- Collection Instructions: Draw blood in a serum gel tube(s), plain red-top tube(s) is NOT acceptable. Spin down and send 7 mL of serum refrigerated (DO NOT ALIQUOT).

**Specimen Minimum Volume:** 5 mL

**Transport Temperature:**
- Serum SST
- Refrigerated (preferred) 7 days
- Ambient 48 hours

**CPT Code Information:** 80299; 83520;
**Ustilago nuda, Mold Grain Rust, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**Uveal Melanoma, Chromosome 3 Monosomy, FISH, Tissue**

**Specimen Requirements:** Submit only 1 of the following specimens: Specimen Type: Tissue Preferred: Tissue block Collection Instructions: Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used. Acceptable: Slides Collection Instructions: Four consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume:** Two consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Transport Temperature:**
- Tissue Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**Vaginitis (VG), NuSwab**

**Specimen Requirements:** Submit one vaginal swab in APTIMA vaginal or unisex swab. Ship refrigerate.

**Specimen Minimum Volume:** One swab

**Transport Temperature:**
- Swab Refrigerated (preferred) 30 days
- Ambient 30 days

**CPT Code Information:** 87801; 87798 x 3; 87661;
Valproic Acid, Free and Total, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** VALPA â€“ 80164; VALPF - 80165;

Valproic Acid, Free, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 80165

Valproic Acid, Total, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 80164

Vanadium, Serum

**Specimen Requirements:** Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 1.6 mL Collection Instructions: 1. Allow
the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. 2. Remove the stopper. Carefully pour specimen into Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipette into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: 1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. 2. If ordering the trace element blood collection tube from BD, order catalog #368380.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

**CPT Code Information:** 83018

**VANPA**

**Vancomycin, Peak, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Serum for a peak level should be drawn 1 hour after completion of dose. 2. Centrifuge and aliquot within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 48 hours

**CPT Code Information:** 80202

**VANRA**

**Vancomycin, Random, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL Collection Instructions: Centrifuge and aliquot within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 48 hours

**CPT Code Information:** 80202

**VANTA**

**Vancomycin, Trough, Serum**

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 48 hours

**CPT Code Information:** 80202
**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 0.5 mL Collection Instructions: 1. Draw specimen immediately prior to the next dose (within 30 minutes). 2. Centrifuge and aliquot within 2 hours of collection.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 14 days
- Frozen 365 days
- Ambient 48 hours

**CPT Code Information:** 80202

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**VRERP 84406**  
**Vancomycin-Resistant Enterococcus, Molecular Detection, PCR**

**Specimen Requirements:** The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Vancomycin-Resistant Enterococcus DNA is unlikely. Submit only 1 of the following specimens: Supplies: Culturette (BBL Culture Swab) (T092) C and S Vial (T058) Stool container, Small (Random), 4 oz Random (T288) Preferred: Specimen Type: Perianal, perirectal, rectal Container/Tube: Culture transport swab (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium [T092]) Specimen Volume: Swab Acceptable: Specimen Type: Preserved Stool Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair, Para-Pak C and S [T058]) Specimen Volume: Representative portion of stool Collection Instructions: 1. Collect fresh stool and submit 1 gram or 5 mL in container with transport medium. 2. Place stool in preservative within 2 hours of collection. Specimen Type: Unpreserved stool Container/Tube: Stool container (T288) Specimen Volume: Representative portion of stool

**Transport Temperature:**
- Varies Refrigerated (preferred) 7 days
- Ambient 7 days
- Frozen 7 days

**CPT Code Information:** 87500

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**FVANG 57669**  
**Vanilla IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001
Vanilla, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

Vanillylmandelic Acid (VMA) and Homovanillic Acid (HVA), Random, Urine

**Specimen Requirements:** Patient Preparation: Administration of L-dopa may falsely increase homovanillic acid and vanillylmandelic acid results; it should be discontinued 24 hours prior to and during collection of specimen. Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. Adjust urine pH to 1 to 5 with 50% acetic or HCl acid.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 180 days

**CPT Code Information:** 83150-HVA; 84585-VMA;

Vanillylmandelic Acid (VMA), 24 Hour, Urine

**Specimen Requirements:** Patient Preparation: Administration of L-dopa may falsely-increase vanillylmandelic acid results; it should be discontinued 24 hours prior to and during collection of specimen. Supplies: Urine Tubes, 10 mL (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a 24-hour urine specimen. 2. Add 25 mL of 50% acetic acid as preservative at the start of collection. If specimen is refrigerated during collection, preservative may be added up to 12 hours after collection. Use 15 mL of 50% acetic acid for children <5 years old. This preservative is intended to achieve a pH of between approximately 1 and 5. If necessary, adjust urine pH to 1 to 5 with 50% acetic or HCl acid. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 180 days

**CPT Code Information:** 84585
Vanillylmandelic Acid (VMA), Random, Urine

**Specimen Requirements:** Container/Tube: Plastic, 10-mL urine tube (T068) Specimen Volume: 5 mL Collection Instructions: 1. Collect a random urine specimen. 2. Adjust the random urine pH to a level between 1 and 5 by adding 50% acetic acid dropwise and checking the pH. Additional Information: 1. Patient's age is required. 2. Administration of L-dopa may falsely increase vanillylmandelic acid results; it should be discontinued 24 hours prior to and during collection of specimen.

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Frozen 180 days

**CPT Code Information:** 84585

Varicella Zoster Virus (VZV) Immunostain, Technical Component Only

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:** TECHONLY Ambient
- (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

Varicella-Zoster Antibody, IgG, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86787

Varicella-Zoster Antibody, IgM and IgG (Separate Determinations), Serum
**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86787-Varicella IgG; 86787-Varicella IgM;

**Varicella-Zoster Virus (VZV) Antibody, IgM, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 14 days

**CPT Code Information:** 86787

**Varicella-Zoster Virus Antibody, IgG, CSF**

**Specimen Requirements:** Collect 0.5 mL CSF in sterile plastic container and ship refrigerate.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
CSF Refrigerated (preferred) 14 days
Frozen 365 days

**CPT Code Information:** 86787

**Varicella-Zoster Virus, Molecular Detection, PCR**

**Specimen Requirements:** Submit only 1 of the following specimens: Supplies: Aliquot Tube, 5 mL (T465) Specimen Type: Fluid Sources: Spinal, pleural, peritoneal, ascites, pericardial, amniotic, or ocular Container/Tube: Sterile container Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge. Supplies: Culturette (BBL Culture Swab) (T092) M4-RT (T605) Specimen Type: Swab Sources: Miscellaneous; dermal, eye, nasal, or throat Container/Tube: Multimicrobe media (M4-RT) (T605) Collection Instructions: Place swab back into multimicrobe media (M4-RT [T605], M4, or M5). Supplies: Culturette (BBL Culture Swab) (T092) M4-RT (T605) Specimen Type: Swab Sources: Genital; cervix, vagina, urethra, anal/rectal, or other genital sources Container/Tube: Multimicrobe media (M4-RT) (T605) Collection Instructions: Place swab back into multimicrobe media (M4-RT [T605], M4, or M5). Specimen Type: Fluid Sources: Respiratory; bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate Container/Tube: Sterile container Specimen Volume: 1.5 mL Supplies: M4-RT (T605) Specimen Type: Tissue Sources: Brain, colon, kidney, liver, lung, etc. Container/Tube: Preferred: Multimicrobe media (M4-RT) (T605) Acceptable: Sterile container with 1 to 2 mL of sterile saline Specimen Volume: Entire collection Collection
Instructions: Submit only fresh tissue in a sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT [T605], M4, or M5)

**Specimen Minimum Volume:** Body Fluid, Ocular Fluid, or Spinal Fluid: 0.3 mL. Respiratory Specimens: 1 mL. Tissue: 2 x 2-mm biopsy

**Transport Temperature:**
Varies
Refrigerated (preferred) 7 days
Frozen 7 days

**CPT Code Information:** 87798

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**VEGF**

**Vascular Endothelial Growth Factor (VEGF), Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender-top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL. Collection Instructions: 1. Immediately after drawing the specimen, place the tube on wet ice. 2. Spin down and separate plasma from cells; 1,500 x g for 10 minutes. 3. Freeze specimen within 30 minutes

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
Plasma EDTA Frozen (preferred) 21 days
Refrigerated 24 hours

**CPT Code Information:** 83520

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**VIP**

**Vasoactive Intestinal Polypeptide (VIP), Plasma**

**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Plastic vial Specimen Volume: 1 mL. Collection Instructions: 1. Fasting (8 hours) 2. Spin down and immediately freeze. Additional Information: This test should not be requested on patients who have recently received radioactive material.

**Specimen Minimum Volume:** 0.55 mL

**Transport Temperature:**
Plasma EDTA Frozen 90 days

**CPT Code Information:** 84586

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**VIPI**

**Vasoactive Intestine Polypeptide (VIP), Immunostain Without Interpretation**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;

VDSF 9028 VDRL, Spinal Fluid
Specimen Requirements: Collection Container/Tube: Sterile vial Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL
Specimen Minimum Volume: 0.2 mL
Transport Temperature:
CSF Frozen (preferred) 14 days
Refrigerated 14 days

CPT Code Information: 86592

VEDOZ 603025 Vedolizumab Quantitation with Antibodies, Serum
Specimen Requirements: Patient Preparation: Nivolumab (Opdivo) must be discontinued at least 4 weeks prior to testing for vedolizumab quantitation in serum. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL
Specimen Minimum Volume: 0.75 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 28 days

CPT Code Information: 80299; 82397;

VEDOL 602807 Vedolizumab Quantitation with Reflex to Antibodies, Serum
Specimen Requirements: Patient Preparation: Nivolumab (Opdivo) must be discontinued at least 4 weeks prior to testing for vedolizumab quantitation in serum. Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1.5 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. 2. Spin down within 2 hours of draw.
Specimen Minimum Volume: 0.75 mL
Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 28 days

CPT Code Information: 80299; 82397 (if appropriate);

VELV 82917 Velvet Leaf, IgE
Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from

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the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

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**VENLA**

**83732 Venlafaxine, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 1 mL Collection Instructions: 1. Draw blood immediately before next scheduled dose. Serum drawn from patients 12 hours after an oral dose is appropriate. It is customary to treat the patient at bedtime with a dose, then, draw specimen the following morning prior to next dose. 2. Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 14 days
- Ambient: 14 days
- Frozen: 14 days

**CPT Code Information:** 80299

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**FBMBL**

**57975 Venom Bumble Bee (Bombus terrestrus) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
- Frozen: 365 days
- Ambient: 28 days

**CPT Code Information:** 86003

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**FHOBG**

**57714 Venom Honey Bee IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred): 28 days
- Frozen: 365 days
**FWFHG 57799**  
**Venom W-F Hornet IgG**  
**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.  
**Specimen Minimum Volume:** 0.5 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 28 days  
Frozen 365 days  
Ambient 7 days  

**CPT Code Information:** 86001

**VLCZ 35571**  
**Very Long Chain Acyl-CoA Dehydrogenase Deficiency, Full Gene Analysis**  
**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) or yellow top (ACD) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.  
Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper, or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood Spots on collection card (Whatman Protein Saver 903 Paper; Ahlstrom 226 filter paper; or Blood Spot Collection Card, T493) Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature in a horizontal position for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions. Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 Full T-75 or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours  
**Specimen Minimum Volume:** Blood: 1 mL Blood Spots: 5 punches, 3-mm diameter  
**Transport Temperature:** Varies Varies

**CPT Code Information:** 81406-ACADV (acyl-CoA dehydrogenase, very long chain) (eg, very long chain acyl-coenzyme A dehydrogenase deficiency), full gene sequence

**VHLE 37839**  
**VHL Gene, Erythrocytosis Mutation Analysis**  
**Specimen Requirements:** Only orderable as part of a profile. For more information see HEMP /
Hereditary Erythrocytosis Mutations. This test is only available as a reflex from the HEMP / Hereditary Erythrocytosis Mutations. VHLE is not a single orderable test.

**Specimen Minimum Volume:** Blood: 1 mL

**Transport Temperature:**
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81404-VHL (von Hippel-Lindau tumor suppressor) (eg, von Hippel-Lindau familial cancer syndrome), full gene sequence

### VHLZ 37440

**VHL Gene, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81404-VHL (von Hippel-Lindau tumor suppressor) (eg, von Hippel-Lindau familial cancer syndrome), full gene sequence; 81403-VHL duplication/deletion;

### VIBC 89658

**Vibrio Culture, Stool**

**Specimen Requirements:** Specimen must arrive within 96 hours of collection. Specimen Type: Preserved Stool Container/Tube: Commercially available transport system specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S) Specimen Volume: 1 gram or 5 mL (Representative portion of stool specimen) Collection Instructions: Collect fresh stool and submit in container with transport medium.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Fecal Ambient (preferred) 4 days
- Refrigerated 4 days

**CPT Code Information:** 87046-Vibrio culture, stool; 87077-Identification by MALDI-TOF mass spec (if appropriate); 87077-Additional identification procedure (if appropriate); 87077-Bacterial identification (if appropriate); 87153-Aerobe identification by sequencing (if appropriate);
**Vigabatrin (Sabril)**

**Specimen Requirements:** Submit only 1 of the following specimens: Plasma. Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in a plastic vial. Serum. Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Refrigeated (preferred) 14 days
- Frozen 180 days
- Ambient 72 hours

**CPT Code Information:** 80339

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**Vimentin (VIM) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue. Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88342-TC, primary; 88341-TC, if additional IHC;

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**Viral Culture, Non-Respiratory**

**Specimen Requirements:** Specimen Type: Body fluid. Sources: Pericardial, peritoneal, amniotic. Container/Tube: Sterile container. Specimen Volume: 1 mL. Specimen Type: Rectal. Supplies: Swab, Sterile Polyester (T507) M4-RT (T605) Container/Tube: Multimicrobe media (M4-RT) (T605) Specimen Volume: Swab Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5). Specimen Type: Spinal fluid. Container/Tube: Sterile vial. Specimen Volume: 1 mL. Specimen Type: Stool. Supplies: Stool Collection Kit, Random (T635) Container/Tube: Sterile container. Specimen Volume: 5-10 g. Specimen Type: Tissue. Supplies: M4-RT (T605) Sources: Brain, colon, kidney, liver, etc. Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4, or M5). Specimen Volume: Entire collection. Specimen Type: Dermal (for enterovirus only). Supplies: Swab, Sterile Polyester (T507) M4-RT (T605) Container/Tube: Multimicrobe media (M4-RT) (T605) Specimen Volume: Swab Collection Instructions: 1. Place swab in M4-RT (T605) or other viral transport media (M4 or M5). 2. Clearly label "enterovirus" to ensure proper handling and test setup.

**Specimen Minimum Volume:**
- Body Fluid or Spinal Fluid: 1 mL
- Stool: 5 g
- Urine: 0.5 mL
- Tissue Biopsy: 5 mm

**Transport Temperature:**
- Varieties Refrigerated 7 days

**CPT Code Information:** 87252-Viral culture, non-respiratory; 87176-Tissue processing (if...
VRESP 88926

**Viral Culture, Respiratory**

**Specimen Requirements:** Specimen Type: Lower respiratory tract specimens such as bronchoalveolar lavage, bronchial washings or aspirates, tracheal aspirates or secretions, pleural fluid, nasal swab or washing or sputum. Specimen Volume: 1 mL. Specimen Type: Nasopharynx Supplies: Nasopharyngeal Swab (Rayon Mini-Tip swab) (T515) M4-RT (T605). Specimen Volume: Entire collection. Collection Instructions: 1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells. 2. Place swab into M4-RT media (T605) or other viral transport media (M4 or M5). Specimen Type: Throat Supplies: Culturette (BBL Culture Swab) (T092) M4-RT (T605) Swab, Sterile Polyester (T507). Container/Tube: Multimicrobe Media (M4-RT) (T605). Preferred: BBL CultureSwab (T092). Acceptable: Dacron-tipped swab with plastic handle (T507). Specimen Volume: Swab. Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5). Specimen Type: Tissue Supplies: M4-RT (T605). Sources: Lung and others. Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4, or M5). Specimen Volume: Entire collection. Specimen Type: Oral Supplies: Swab, Sterile Polyester (T507) M4-RT (T605) Container/Tube: Dacron-tipped swab with plastic handle (T507). Specimen Volume: Swab. Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5).

**Specimen Minimum Volume:** See Specimen Required

**Transport Temperature:**
Varies Refrigerated 7 days

**CPT Code Information:** 87252-Tissue culture inoculation; 87176-Tissue processing (if appropriate); 87253-Additional testing virus, identification (if appropriate); 87254-Viral smear, shell vial (if appropriate);

SVIR 45472

**Viral Smear, Shell Vial (Bill Only)**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.

**Transport Temperature:**
Varies Refrigerated

**CPT Code Information:** 87254

VISCS 8168

**Viscosity, Serum**

**Specimen Requirements:** Container/Tube: Red top. Specimen Volume: 1.5 mL. Collection Instructions: Keep specimen at 37°C (eg, 37°C Thermopak, heat block) until after centrifugation and separation of cells.

**Specimen Minimum Volume:** 0.65 mL

**Transport Temperature:**
Serum Red Refrigerated (preferred) 14 days
Ambient 14 days
Frozen 14 days

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com
CPT Code Information: 85810

**VAE 43616**

**Vitamin A and Vitamin E, Serum**

**Specimen Requirements:** Patient Preparation: Fasting overnight (12-14 hours) (infants-draw prior to next feeding). Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Amber vial (T192) Specimen Volume: 1 mL Collection Instructions: Send specimen in amber vial to protect from light within 24 hours.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Varies 14 days

CPT Code Information: 84446-Vitamin E; 84590-Vitamin A;

**VITA 42357**

**Vitamin A, Serum**

**Specimen Requirements:** Patient Preparation: Fasting overnight (12-14 hours) (infants: draw prior to next feeding). Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 0.5 mL

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days

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<thead>
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<th>Duration</th>
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<tbody>
<tr>
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CPT Code Information: 84590

**FB12 9156**

**Vitamin B12 and Folate, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 1 mL Collection Instructions: Fasting (8 hours) Additional Information: Do not order on patients who have recently received methotrexate or other folic acid antagonist.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 7 days

<table>
<thead>
<tr>
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<th>Duration</th>
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CPT Code Information: 82607-Vitamin B12; 82746-Folate;

**B12 9154**

**Vitamin B12 Assay, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.6 mL Collection Instructions: 1. Serum gel tubes should be centrifuged within 2 hours of collection. 2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.
**FVITB** 57319

**Vitamin B12 Binding Capacity**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 1 mL of serum refrigerated in a plastic vial. Note: Patient should fast for 12 â€“ 15 hours prior to collection. Vitamin B12 supplements should not be administered within 72 hours of drawing blood for this test.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 30 days
- Ambient 6 hours

**CPT Code Information:** 82607

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**FNIAC** 91379

**Vitamin B3 Niacin in Plasma**

**Specimen Requirements:** Specimen Type: Plasma Container/Tube: EDTA Specimen Volume: 4 mL Collection Instructions: Draw sufficient blood in a lavender-top (EDTA) tube(s). Spin down and transfer to a plastic Amber vial (T192) to protect from light within 30 minutes of collection. Freeze and send 4 mL EDTA plasma frozen on dry ice.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Plasma EDTA Frozen (preferred) 56 days
- Refrigerated 48 hours

**CPT Code Information:** 84591

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**FPAB** 57394

**Vitamin B5 (Pantothenic Acid) Bioassay**

**Specimen Requirements:** Draw blood in a SST (serum separator tube). Spin down and transfer to plastic Amber vial (T192) to protect from light. Send 1 mL serum frozen.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum SST Frozen (preferred) 21 days
- Refrigerated 7 days
### Vitamin B6 Profile (PLP and PA), Plasma

**Specimen Requirements:** Patient Preparation: 1. Fasting-overnight (12-14 hours) (infants-draw prior to next feeding). 2. Patient must not ingest vitamin supplements for 24 hours before the specimen is drawn. Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Green top (sodium or lithium heparin) Submission Container/Tube: Amber vial (T192) Specimen Volume: 1 mL Collection Instructions: Centrifuge at 4°C, then aliquot all plasma into amber vial.

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
- Plasma Heparin Refrigerated (preferred) 7 days
- Frozen 14 days

### Vitamin B7, H (Biotin)

**Specimen Requirements:** Specimen Type: Serum Container/Tube: Red or SST Specimen Volume: 2 mL Collection Instructions: Draw blood in a plain, no additive red-top tube(s) or serum gel tube(s). Spin down and send 2 mL serum frozen in amber vial (T192) to protect from light.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Frozen 14 days

### Vitamin E, Serum

**Specimen Requirements:** Patient Preparation: Fasting overnight (12-14 hours) (infants-draw prior to next feeding). Supplies: Amber Frosted Tube, 5 mL (T192) Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Amber vial (T192) Specimen Volume: 0.5 mL Collection Instructions: Send specimen in amber vial to protect from light within 24 hours.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

### Vitamin K1, Serum

**Specimen Requirements:** Collection Container/Tube: Preferred: Red top Acceptable: Serum gel Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: Fasting
overnight (12-14 hours) (infants-draw prior to next feeding).

**Specimen Minimum Volume:** 0.75 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 30 days
- Ambient 30 days
- Frozen 30 days

**CPT Code Information:** 84597

### VLTB

#### 89190

**Volatile Screen, Blood**

**Specimen Requirements:** Container/Tube: Preferred: Grey top (potassium oxalate/sodium fluoride) Acceptable: Any anticoagulant Specimen Volume: 1 mL Collection Instructions: Do not use alcohol to clean arm. Use alternatives such as Betadine to cleanse arm before collecting any specimen for volatile testing.

**Specimen Minimum Volume:** 0.5 mL or amount to fill 1 tube

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 72 hours
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80320; G0480 (if appropriate);

### VLTBX

#### 62745

**Volatile Screen, Chain of Custody, Blood**

**Specimen Requirements:** Supplies: Chain-of-Custody Kit (T282) Container/Tube: Chain-of-Custody Kit (T282) containing the specimen container seals and documentation required. Preferred: Grey top (potassium oxalate/sodium fluoride) Acceptable: Any anticoagulant Specimen Volume: 1 mL Collection Instructions: 1. Do not use alcohol to clean arm. Use alternative such as Betadine to cleanse arm before collecting any specimen for volatile testing. 2. Specimen must be sent in original tube. Collect specimen, seal, and submit with the associated documentation to satisfy the legal requirements for chain of custody testing.

**Specimen Minimum Volume:** 0.5 mL or amount to fill 1 tube

**Transport Temperature:**
- Whole blood Refrigerated (preferred) 72 hours
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80320; G0480 (if appropriate);

### VLTUX

#### 62746

**Volatile Screen, Chain of Custody, Urine**

**Specimen Requirements:** Supplies: Chain-of-Custody Kit (T282) Container/Tube: Chain-of-Custody Kit (T282) containing the specimen containers, seals, and documentation required.
Specimen Volume: 10 mL Collection Instructions: Collect specimen in the container provided, seal, and submit with the associated documentation to satisfy the legal requirements for chain of custody testing. Additional Information: 1. If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADLTX / Adulterants Survey, Chain of Custody, Urine. For additional information, refer to ADLTX / Adulterants Survey, Chain of Custody, Urine. 2. Submitting less than 20 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 72 hours
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80320; G0480 (if appropriate);

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**VLTS 8632**

**Volatile Screen, Serum**

**Specimen Requirements:** Ethylene glycol requires a separate request. See ETGL / Ethylene Glycol, Serum. Submit only 1 of the following specimens: Preferred: Container/Tube: Serum gel Specimen Volume: Full tube Collection Instructions: 1. Arm must be cleansed with water only. 2. Avoid exposure of specimen to atmosphere. 3. Do not aliquot. Acceptable: Container/Tube: Red top Specimen Volume: Full tube Collection Instructions: 1. Arm must be cleansed with water only. 2. Avoid exposure of specimen to atmosphere. 3. Centrifuge specimen within 2 hours of draw and send serum aliquot to laboratory refrigerated.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 72 hours
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80320; G0480 (if appropriate);

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**VLTU 8826**

**Volatile Screen, Urine**

**Specimen Requirements:** Supplies: Plastic, 10-mL urine tube (T068) Specimen Volume: 10 mL Collection Instructions: 1. Collect a random urine specimen. 2. No preservative. Additional Information: Submitting less than 10 mL will compromise our ability to perform all necessary testing.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 72 hours
- Frozen 14 days
- Ambient 24 hours

**CPT Code Information:** 80320; G0480 (if appropriate);
**VWD2N**

von Willebrand Disease 2N (Subtype Normandy), Blood

**Specimen Requirements:** Container/Tube: Preferred: Yellow top (ACD solution A or B)  
Acceptable: EDTA, sodium citrate  
Specimen Volume: Full tube  
Collection Instructions:  
1. Invert several times to mix blood.  
2. Send specimen in original tube.  
Additional Information: If F8A / Coagulation Factor VIII Activity Assay, Plasma; VWAG / von Willebrand Factor Antigen, Plasma; and/or RIST / Ristocetin Cofactor, Plasma have been previously performed on the patient, include results of these tests when submitting specimen for testing.

**Specimen Minimum Volume:** 1 mL of blood in 3-mL ACD tube

**Transport Temperature:**

- Whole blood  
  - Ambient (preferred)  
  - Refrigerated

**CPT Code Information:** 81401-VWF (von Willebrand factor) (eg, von Willebrand disease type 2N), common variants (eg, T791M, R816W, R854Q)

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**VWFX**

von Willebrand Factor Activity, Plasma

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing.  
Specimen Type: Platelet-poor plasma  
Collection Container/Tube: Light-blue top (citrate)  
Submission Container/Tube: Polypropylene vial  
Specimen Volume: 2 mL in 2 vials each containing 1 mL  
Collection Instructions:  
1. Specimen must be drawn prior to factor replacement therapy.  
2. Spin down, remove plasma, and spin plasma again.  
3. Freeze specimens immediately at < or =-40 degrees C, if possible.  
4. Send specimens in the same shipping container.  
Additional Information:  
1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.  
2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Plasma Na Cit  
  - Frozen 14 days

**CPT Code Information:** 85397

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**VWAG**

von Willebrand Factor Antigen, Plasma

**Specimen Requirements:** See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing.  
Specimen Type: Platelet-poor plasma  
Collection Container/Tube: Light-blue top (citrate)  
Submission Container/Tube: Plastic vial  
Specimen Volume: 1 mL  
Collection Instructions:  
1. Spin down, remove plasma, and spin plasma again.  
2. Freeze specimen immediately at < or =-40 degrees C, if possible.  
Additional Information:  
1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.  
2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**

- Plasma Na Cit  
  - Frozen 14 days

**CPT Code Information:** 85246
von Willebrand Factor Multimer Analysis, Plasma

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Specimen should be drawn prior to coagulation factor replacement therapy. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 1 mL in 2 plastic vials each containing 0.5 mL Collection Instructions: 1. Spin down, remove plasma, and spin plasma again. 2. Freeze specimens immediately at < or =-40 degrees C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. Each coagulation assay requested should have its own vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Plasma Na Cit Frozen 42 days

CPT Code Information: 85247

von Willebrand Profile

Specimen Requirements: See Coagulation Studies in Special Instructions: Guidelines for Specimen Handling and Processing. Patient Preparation: Patient should not be receiving anticoagulant treatment (e.g., heparin, Coumadin). If so, please note. Specimen Type: Platelet-poor plasma Collection Container/Tube: Light-blue top (citrate) Submission Container/Tube: Plastic vials Specimen Volume: 3 mL in 3 plastic vials each containing 1 mL Collection Instructions: 1. Specimen must be drawn prior to factor replacement therapy. 2. Spin down, remove plasma, and spin plasma again. 3. Freeze specimen aliquots immediately at or below -40°C, if possible. Additional Information: 1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results. 2. If priority specimen, mark request form, give reason, and request a call-back. 3. Each coagulation assay requested should have its own vial. 4. If multiple coagulation profiles are ordered, each profile must be on a separate order.

Specimen Minimum Volume: 2 plastic vials each containing 1 mL

Transport Temperature:
Plasma Na Cit Frozen 14 days

CPT Code Information: 85240-Coagulation factor VIII assay; 85246-von Willebrad factor antigen; 85397-von Willebrand factor activity; 85245-von Willebrand factor ristocetin cofactor activity (if appropriate); 85247-von Willebrand factor multimer (if appropriate); 85335-Bethesda titer (if appropriate); 85335-Coagulation factor VIII inhibitor screen (if appropriate); 85390-26-Special coagulation interpretation (if appropriate);

Voriconazole

Specimen Requirements: Container/Tube: Agar slant or other appropriate media Specimen Volume: Organism in pure culture Complete and submit with specimen: 1. Fungus Testing Lab request form Collection Instructions: Organism must be in pure culture, actively growing. Place specimen in a large infectious container (T146) and label as etiologic agent/infectious substance.

Transport Temperature:
Varies Ambient
**Voriconazole, Serum**

**Specimen Requirements:** Collection Container/Tube: Red top Submission Container/Tube: Plastic vial Specimen Volume: 2 mL Collection Instructions: Spin down within 2 hours of draw.

**Specimen Minimum Volume:** 0.6 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 80299

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**Wall Eyed Pike (Sander vitreus)(Stizostedium vitreum) IgE**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 28 days

**CPT Code Information:** 86003

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**Walnut Food (Juglans spp) IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86001

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**Walnut Tree, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens
from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL x number of allergens}) + 0.25 \text{ mL dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**BLW 82898 Walnut-Food, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: \((0.05 \text{ mL x number of allergens}) + 0.25 \text{ mL dead space}\)

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**WARSV 97401 Warfarin Response Genotype**

**Specimen Requirements:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together. Submit only 1 of the following specimens: Specimen Type: Whole blood Container/Tube: Lavender top (EDTA) Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Saliva Patient Preparation: Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection. Supplies: Saliva Swab Collection Kit (T786) Specimen Volume: 1 swab Collection Instructions: Collect and send specimen per kit instructions. Specimen Stability Information: Ambient Specimen Type: DNA Container/Tube: 2 mL screw top tube Specimen Volume: 100 mcL (microliters) Collection Instructions: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL. 2. Include concentration and volume on tube. Specimen Stability Information: Frozen (preferred)/Ambient/Refrigerated

**Specimen Minimum Volume:** Blood: 0.4 mL Saliva: 1 swab

**Transport Temperature:**
- Varies

**CPT Code Information:** 0030U

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**WRF 8760 Warfarin, Serum**

**Specimen Requirements:** Container/Tube: Red top Specimen Volume: 3 mL Collection Instructions: Spin down within 2 hours of draw.
**Specimen Minimum Volume:** 1.1 mL

**Transport Temperature:**
- Serum Red: Refrigerated (preferred) 21 days
- Ambient: 28 days
- Frozen: 28 days

**CPT Code Information:** 80299

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**Wasp Venom, IgE**

**82659**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum: Refrigerated (preferred) 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

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**Watermelon IgG**

**57677**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum: Refrigerated (preferred) 28 days
- Frozen: 365 days
- Ambient: 7 days

**CPT Code Information:** 86001

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**Watermelon, IgE**

**86304**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum: Refrigerated (preferred) 14 days
- Frozen: 90 days
CPT Code Information: 86003

**WEED1** 81882

**Weed Panel # 1**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**WEED2** 81883

**Weed Panel # 2**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**WEED3** 81884

**Weed Panel # 3**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

CPT Code Information: 86003

**WEED4** 81885

**Weed Panel # 4**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL Additional Information: See Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
**WNVCI 36779**  
**West Nile CSF Interpretation**  
**Specimen Requirements:** Only orderable as part of a profile. See WNC / West Nile Virus Antibody, IgG and IgM, Spinal Fluid.  
**Specimen Minimum Volume:** 0.8 mL  
**Transport Temperature:**  
CSF Refrigerated (preferred) 7 days  
Frozen 30 days

**WNVSI 36778**  
**West Nile Serum Interpretation**  
**Specimen Requirements:** Only orderable as part of a profile. For more information see WNS / West Nile Virus Antibody, IgG and IgM, Serum.  
**Specimen Minimum Volume:** 0.4 mL  
**Transport Temperature:**  
Serum Refrigerated (preferred) 14 days  
Frozen 14 days

**WNVP 87802**  
**West Nile Virus (WNV), Molecular Detection, PCR, Plasma**  
**Specimen Requirements:** Collection Container/Tube: Lavender top (EDTA) Submission Container/Tube: Screw-capped, sterile container Specimen Volume: 1 mL Collection Instructions: Spin down promptly  
**Specimen Minimum Volume:** 0.3 mL  
**Transport Temperature:**  
Plasma EDTA Refrigerated (preferred) 7 days  
Frozen 7 days

**WNS 36769**  
**West Nile Virus Antibody, IgG and IgM, Serum**  
**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL  
**Specimen Minimum Volume:** 0.4 mL  
**Transport Temperature:**
**West Nile Virus Antibody, IgG and IgM, Spinal Fluid**

**Specimen Requirements:** Supplies: Aliquot Tube, 5 mL (T465) Collection Container/Tube: Sterile vial Submission Container/Tube: Plastic, 5-mL aliquot tube (T465) Specimen Volume: 1 mL

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** IgG: 86789; IgM: 86788;

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**West Nile Virus Antibody, IgG, Serum**

**Specimen Requirements:** Only orderable as part of a profile. For more information see WNS / West Nile Virus Antibody, IgG and IgM, Serum.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86789

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**West Nile Virus Antibody, IgG, Spinal Fluid**

**Specimen Requirements:** Only orderable as part of a profile. See WNC / West Nile Virus Antibody, IgG and IgM, Spinal Fluid.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 86789

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**West Nile Virus Antibody, IgM, Serum**

**Specimen Requirements:** Only orderable as part of a profile. For more information see WNS / West Nile Virus Antibody, IgG and IgM, Serum.
**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86788

**WNMC 36773**

**West Nile Virus Antibody, IgM, Spinal Fluid**

**Specimen Requirements:** Only orderable as part of a profile. See WNC / West Nile Virus Antibody, IgG and IgM, Spinal Fluid.

**Specimen Minimum Volume:** 0.8 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 30 days

**CPT Code Information:** 86788

**LCWNV 86197**

**West Nile Virus, Molecular Detection, PCR**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL Collection Instructions: Do not centrifuge.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87798

**WEEPC 83918**

**Western Equine Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid**

**Specimen Requirements:** Container/Tube: Sterile vial Specimen Volume: 0.5 mL Additional Information: This test is not available for specimens originating in New York.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- CSF Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86654 x 2

**WEEP**

**Western Equine Encephalitis Antibody, IgG and IgM, Serum**

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 14 days

**CPT Code Information:** 86654 x 2
Specimen Requirements: Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 0.5 mL

Specimen Minimum Volume: 0.15 mL

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 14 days

CPT Code Information: 86654 x 2

**WRW**
82666

Western Ragweed, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

**FWHTG**
57553

Wheat IgG

Specimen Requirements: Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 7 days

CPT Code Information: 86001

**FWHG4**
57570

Wheat IgG4

Specimen Requirements: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume: 0.5 mL

Transport Temperature:
Serum Refrigerated (preferred) 28 days
Frozen 365 days
**WHT**

**82686**

**Wheat, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86001

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**FWHGY**

**57577**

**Whey IgG**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 365 days
- Ambient 7 days

**CPT Code Information:** 86003

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**WHEY**

**82622**

**Whey, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel
Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003
**ASHW 82730**

**White Ash, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**BENW 82726**

**White Bean, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**WFHV 82658**

**White Faced Hornet Venom, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
- Frozen 90 days

**CPT Code Information:** 86003

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**WHIC 82719**

**White Hickory, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space
**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**WPIN 82729 White Pine, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**POTA 82710 White Potato, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
Serum Refrigerated (preferred) 14 days
Frozen 90 days

**CPT Code Information:** 86003

**FWHFE 57545 Whitefish IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.6 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
Serum Refrigerated (preferred) 28 days
Frozen 365 days
Ambient 28 days

**CPT Code Information:** 86003
Whole Exome Sequencing

**Specimen Requirements:** Samples from both biological parents and the patient are required. Each specimen must have a separate order for WES / Whole Exome Sequencing. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. 3. Label the parental samples with full name and date of birth. Do not label the parental samples with the child's name. Additional Information: To ensure minimum volume and concentration of DNA is met, the preferred volume of blood must be submitted. Testing may be canceled if DNA requirements are inadequate.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

*CPT Code Information:* Codes Applied to Proband Sample::; 81415; 81416 x 2;

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Wild Rye Grass, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

*CPT Code Information:* 86003

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Wild Silk, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum Refrigerated (preferred) 14 days
  - Frozen 90 days

*CPT Code Information:* 86003
**Williams Syndrome, 7q11.23 Deletion, FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Preferred: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 5 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Acceptable: Specimen Type: Amniotic fluid Container/Tube: Amniotic fluid container Specimen Volume: 20-25 mL Collection Instructions: 1. Optimal timing for specimen collection is during 14 to 18 weeks of gestation, but specimens collected at other weeks of gestation are also accepted. Provide gestational age at the time of amniocentesis. 2. Discard the first 2 mL of amniotic fluid. Additional Information: 1. Place the tubes in a Styrofoam container (T329). 2. Fill remaining space with packing material. 3. Unavoidably, about 1% to 2% of mailed-in specimens are not viable. 4. Bloody specimens are undesirable. 5. If the specimen does not grow in culture, you will be notified within 7 days of receipt. 6. Results will be reported and also telephoned or faxed, if requested. Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport medium Specimen Volume: 20-30 mg Collection Instructions: 1. Collect specimen by the transabdominal or transcervical method. 2. Transfer chorionic villi to Petri dish containing transport medium (T095). 3. Using a stereomicroscope and sterile forceps, assess the quality and quantity of the villi and remove any blood clots and maternal decidua. Specimen Type: Skin biopsy Container/Tube: Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline Specimen Volume: 4 mm diameter Collection Instructions: 1. Wash biopsy site with an antiseptic soap. 2. Thoroughly rinse area with sterile water. 3. Do not use alcohol or iodine preparations. 4. A local anesthetic may be used. 5. Biopsy specimens are best taken by punch biopsy to include full thickness of dermis.

**Specimen Minimum Volume:** Amniotic Fluid: 5 mL/Blood: 2 mL/Chorionic Villi: 5 mg

**Transport Temperature:**

- Varies Refrigerated (preferred)
- Ambient

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88273 w/modifier 52- Chromosomal in situ hybridization, less than 10 cells (if appropriate); 88273-Chromosomal in situ hybridization, 10-30 cells (if appropriate); 88274 w/modifier 52 – Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88274 â€“ Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate); ;

**WILL**

**Willow, IgE**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**

- Serum Refrigerated (preferred) 14 days
### WT1I

**Wilms Tumor (WT-1) Immunostain, Technical Component Only**

**Specimen Requirements:** Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Container/Tube: Immunostain Technical Only Envelope (T693) Preferred: 2 unstained positively charged glass slide (25- x 75- x 1-mm) per test ordered; sections 4-microns thick. Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

**Transport Temperature:**
- TECHONLY Ambient
  - (preferred)
- Refrigerated

### WDZ

**Wilson Disease, Full Gene Analysis**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient
  - (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81406-ATP7B (ATPase, Cu++ transporting, beta polypeptide) (eg, Wilson disease), full gene sequence

### FWING

**Wingscale (Atriplex Canescens) IgE**

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 28 days

**CPT Code Information:** 86003

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Wisconsin Newborn Screen, Blood Spot

**Specimen Minimum Volume:** WINS: 4 blood spots; LDALD: 1 blood spot

**Transport Temperature:**
- Whole blood: Ambient (preferred) 365 days
- Frozen: 365 days
- Refrigerated: 365 days

**CPT Code Information:** S3620

Wormwood, IgE

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

**Specimen Minimum Volume:** For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

**Transport Temperature:**
- Serum: Refrigerated (preferred) 14 days
- Frozen: 90 days

**CPT Code Information:** 86003

X and Y Aneuploidy Detection, Buccal Smear, FISH

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not delay or reject testing if this information is not provided, but appropriate testing and interpretation may be compromised. Container/Tube: Buccal Smear Collection Kit (T543) Specimen Volume: 2 Cyto-Pak brushes Collection Instructions: 1. Patient should rinse out mouth vigorously with mouthwash followed by water for approximately 15 seconds. Mouthwash is not a requirement but helps reduce the bacteria found in the mouth that may hinder testing. 2. Remove the Cyto-Pak brush from the container only touching the “stick” end. Save the container. 3. Using medium pressure, rotate the brush several times on the inside of the cheek. 4. Return brush to container and cap. 5. Repeat steps 2 through 4 on the other cheek using the second brush. 6. It is important that the patient's buccal cells are not contaminated with cells from any other source. Do not touch the bristles. Do not brush too vigorously. If blood appears, discard the brush and restart the collection process. 7. Label each container with patient's name and order number or hospital/clinic number. Additional Information: 1. Provide appropriate clinical information about the patient as per specific test requirements. 2. It is important that the cells do not dry out during shipping. Ensure that the container is tightly sealed.

**Specimen Minimum Volume:** 2 Cyto-Pak brushes

**Transport Temperature:**
- Buccal Swab: Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 – DNA probe, each (first probe set), Interpretation and
XALDZ

X-Linked Adrenoleukodystrophy, Full Gene Analysis

Specimen Requirements: Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Preferred: Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube. Specimen Stability Information: Ambient (preferred)/Refrigerated Specimen Type: Cultured fibroblasts Container/Tube: T-75 or T-25 flask Specimen Volume: 1 full T-75 flask or 2 full T-25 flasks Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours Specimen Type: Skin biopsy Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle's minimum essential medium with 1% penicillin and streptomycin [T115]). Specimen Volume: 4-mm punch Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Blood spot Supplies: Card - Blood Spot Collection (Filter Paper) (T493) Container/Tube: Preferred: Collection card (Whatman Protein Saver 903 Paper) Acceptable: Ahlstrom 226 filter paper or Blood Spot Collection Card (T493) Specimen Volume: 2 to 5 Blood spots on collection card Collection Instructions: 1. An alternative blood collection option for a patient >1 year of age is finger stick. 2. Let blood dry on the filter paper at ambient temperature for 3 hours. 3. Do not expose specimen to heat or direct sunlight. 4. Do not stack wet specimens. 5. Keep specimen dry. Specimen Stability Information: Ambient (preferred)/Refrigerated Additional Information: 1. For collection instructions in Spanish, see Blood Spot Collection Card-Spanish Instructions (T777) in Special Instructions. 2. For collection instructions in Chinese, see Blood Spot Collection Card-Chinese Instructions (T800) in Special Instructions.

Specimen Minimum Volume: Blood: 1 mL Blood Spots: 5 punches-3 mm diameter

Transport Temperature: Varies Varies

CPT Code Information: 81405-ABCD1 (ATP-binding cassette, sub-family D [ALD] member 1) (eg, adrenoleukodystrophy) full gene sequence; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate);

XHIM

X-Linked Hyper IgM Syndrome, Blood

Specimen Requirements: For serial monitoring, we recommend that specimen draws be performed at the same time of day. Container/Tube: Green top (sodium heparin) Specimen Volume: 4 mL Collection Instructions: 1. Send specimen in original tube. Do not aliquot. 2. Specimens received more than 72 hours after collection will be rejected and the assay will not be performed.

Specimen Minimum Volume: 1.2 mL

Transport Temperature: WB Sodium Heparin Ambient 72 hours

CPT Code Information: 88184-Flow cytometry, cell surface, cytoplasmic; 88185 x 6-Each

Current as of October 16, 2018 7:53 pm CDT  800-533-1710 or 507-266-5700 or MayoMedicalLaboratories.com  Page 1158
**XX/XY in Opposite Sex Bone Marrow Transplantation, FISH**

**Specimen Requirements:** Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Advise Express Mail or equivalent if not on courier service. Submit only 1 of the following specimens: Specimen Type: Blood Container/Tube: Green top (sodium heparin) Specimen Volume: 7-10 mL Collection Instructions: 1. Invert several times to mix blood. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells. Specimen Type: Bone marrow Container/Tube: Green top (sodium heparin) Specimen Volume: 1-2 mL Collection Instructions: 1. Invert several times to mix bone marrow. 2. Other anticoagulants are not recommended and are harmful to the viability of the cells.

**Specimen Minimum Volume:** Blood: 2 mL/Bone Marrow: 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Refrigerated

**CPT Code Information:** 88271x2, 88291 â€“ DNA probe, each (first probe set), Interpretation and report; 88271x2 â€“ DNA probe, each; each additional probe set (if appropriate); 88271x1 â€“ DNA probe, each; coverage for sets containing 3 probes (if appropriate); 88271x2 â€“ DNA probe, each; coverage for sets containing 4 probes (if appropriate); 88271x3 â€“ DNA probe, each; coverage for sets containing 5 probes (if appropriate); 88274 w/modifier 52 â€“ Interphase in situ hybridization, <25 cells, each probe set (if appropriate); 88275 â€“ Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate);

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**Y Chromosome Microdeletions, Molecular Detection**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Specimen Type: Whole blood Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD) Acceptable: Any anticoagulant Specimen Volume: 3 mL Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Varies Ambient (preferred)
- Frozen
- Refrigerated

**CPT Code Information:** 81403-DAZ/SRY (deleted in azoospermia and sex determining region Y) (eg, male infertility), common deletions (eg, AZFa, AZFb, AZFc, AZFd)

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**Yeast Ident Panel D (Bill Only)**

**Specimen Requirements:** This test is for Billing Purposes Only. This is not an orderable test.
Transport Temperature:
Varies Varies

CPT Code Information: 87106

Yellow Faced Hornet Venom, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Yellow Jacket Venom, IgE

Specimen Requirements: Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 0.5 mL for each 5 allergens requested Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Specimen Minimum Volume: For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Transport Temperature:
Serum Refrigerated (preferred) 14 days
Frozen 90 days

CPT Code Information: 86003

Yes-Associated Protein (YAP) Immunostain, Technical Component Only

Specimen Requirements: Supplies: Immunostain Technical Only Envelope (T693) Specimen Type: Tissue Preferred: 2 Unstained, positively charged glass slides (25- x 75- x 1-mm) per test ordered; sections 4-microns thick Acceptable: Formalin-fixed, paraffin-embedded (FFPE) tissue block

Transport Temperature:
TECHONLY Ambient (preferred)
Refrigerated

CPT Code Information: 88342-TC, primary; 88341-TC, if additional IHC;
Yo Antibody Screen with Reflex to Titer and Western Blot

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum ambient in a plastic vial. Note: Overnight fasting is preferred.

**Specimen Minimum Volume:** 0.2 mL

**Transport Temperature:**
- Serum Ambient: 7 days
  - Frozen: 21 days
  - Refrigerated: 14 days

**CPT Code Information:** 86255 â€“ Screen; 84181 â€“ Western Blot with interpretation and report (if appropriate); 86256 â€“ Titer, each antibody (if appropriate);

Yogurt (Lactobacillus bulgaricus) IgE

**Specimen Requirements:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated: 28 days
  - Frozen: 365 days
  - Ambient: 28 days

**CPT Code Information:** 86003

Zika Virus IgM Antibody Capture MAC-ELISA, Serum

**Specimen Requirements:** Container/Tube: Preferred: Serum gel Acceptable: Red top Specimen Volume: 2.5 mL

**Specimen Minimum Volume:** 2 mL

**Transport Temperature:**
- Serum Frozen: 30 days

**CPT Code Information:** 86794

Zika Virus, PCR, Molecular Detection, Random, Urine

**Specimen Requirements:** Container/Tube: Sterile container Specimen Volume: 1 mL Collection Instructions: 1. Collect random urine in a sterile container. 2. Label specimen as urine.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Urine Refrigerated: 7 days
  - Frozen: 7 days
**Zika Virus, PCR, Molecular Detection, Serum**

**Specimen Requirements:** Collection Container/Tube: Preferred: Serum gel Acceptable: Red top Submission Container: Sterile container Specimen Volume: 0.5 mL Collection Instructions: 1. Collect whole blood in a serum gel tube. 2. Centrifuge and aliquot the serum into a sterile container within 6 hours of collection. 3. Label specimen as serum.

**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 7 days
- Frozen 7 days

**CPT Code Information:** 87662

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**Zinc Protoporphyrin, Blood**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183) Metal Free (Lead only) EDTA Tube, 3 mL (T615) Microtainer (EDTA) Tube, 0.5 mL (T174) If ordering the EDTA trace element Vacutainer tube from BD, order catalog #368381. Container/Tube: Preferred: Royal blue-top BD Vacutainer Plus with EDTA blood collection tube (T183) Acceptable: Tan-top (lead only) BD Vacutainer Plus with EDTA blood collection tube (T615) or BD Microtainer with EDTA (T174) or royal blue-top Monoject trace element blood collection tube Specimen Volume: 1 mL Collection Instructions: 1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. 2. Send specimen in original tube.

**Specimen Minimum Volume:** 0.3 mL

**Transport Temperature:**
- Whole blood Refrigerated 28 days

**CPT Code Information:** 84202

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**Zinc Transporter 8 (ZnT8) Antibody, Serum**

**Specimen Requirements:** Container/Tube: Preferred: Red top Acceptable: Serum gel Specimen Volume: 2 mL

**Specimen Minimum Volume:** 1 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
- Frozen 28 days
- Ambient 72 hours

**CPT Code Information:** 86341
**Zinc, 24 Hour, Urine**

**Specimen Requirements:** Patient Preparation: High concentrations of barium are known to interfere with this test. If barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container with no metal cap or glued insert Submission Container/Tube: Plastic urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 10 mL Collection Instructions: 1. Collect urine for 24 hours. 2. Refrigerate specimen within 4 hours of completion of 24-hour collection. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions. Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume:** 0.4 mL

**Transport Temperature:**
- Urine Refrigerated (preferred) 28 days
- Ambient 28 days
- Frozen 28 days

**CPT Code Information:** 84630

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**Zinc, Red Blood Cell**

**Specimen Requirements:** Collect whole blood from a metal free EDTA (royal blue top) tube. Spin down and separate plasma and red blood cells immediately. Ship 2 mL plasma and 2 mL RBC in metal free tubes, refrigerate. Note: Both plasma and RBCs are required for testing.

**Specimen Minimum Volume:** 0.1 mL

**Transport Temperature:**
- Metal Free EDTA Plasma Refrigerated 5 days
- RBCS Refrigerated 5 days

**CPT Code Information:** 84630

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**Zinc, Serum**

**Specimen Requirements:** Patient Preparation: High concentrations of gadolinium, iodine, and barium are known to interfere with most metals tests. If gadolinium-, iodine, or barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Metal Free B-D Tube (No Additive), 6 mL (T184) Metal Free Specimen Vial (T173) Collection Container/Tube: 6-mL Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184) Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173) Specimen Volume: 0.8 mL Collection Instructions: 1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction. Serum must be removed from cellular fraction within 4 hours of specimen collection. Avoid hemolysis. 2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer. 3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:** 0.2 mL
**Transport Temperature:**
Serum Refrigerated (preferred)  28 days
Ambient  28 days
Frozen  28 days

**CPT Code Information:**  84630

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**ZNCRU 60527 Zinc/Creatinine Ratio, Random, Urine**

**Specimen Requirements:**  Patient Preparation: High concentrations of barium are known to interfere with most metals tests. If barium-containing contrast media has been administered, a specimen should not be collected for 96 hours. Supplies: Urine Tubes, 10 mL (T068) Collection Container/Tube: Clean, plastic urine collection container with no metal cap or glued insert Submission Container/Tube: Plastic urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert Specimen Volume: 3 mL Collection Instructions: 1. Collect a random urine specimen. 2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Minimum Volume:**  0.7 mL

**Transport Temperature:**
Urine Refrigerated (preferred)  28 days
Ambient  28 days
Frozen  28 days

**CPT Code Information:**  84630 Zinc Concentration; 82570 Creatinine Concentration;

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**FZIP 57107 Ziprasidone (Geodone, Zeldox)**

**Specimen Requirements:**  Submit only 1 of the following specimens Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:**  0.3 mL

**Transport Temperature:**
Varies Refrigerated (preferred)  7 days
Frozen  180 days
Ambient  72 hours

**CPT Code Information:**  80342

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**FZOLP 57738 Zolpidem (Ambien), serum or plasma**

**Specimen Requirements:**  Submit only 1 of the following specimens: Plasma Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial. Serum Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.
**Specimen Minimum Volume:** 0.25 mL

**Transport Temperature:**
- Refrigerated (preferred) 7 days
  - Frozen 180 days
  - Ambient 72 hours

**CPT Code Information:** 80368

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**ZONI 83685**

**Zonisamide, Serum**

**Specimen Requirements:** Container/Tube: Red top

**Specimen Volume:** 1 mL

Collection Instructions: Sample must be centrifuged and serum aliquoted off within 2 hours of draw.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Red Refrigerated (preferred) 28 days
  - Ambient 28 days
  - Frozen 28 days

**CPT Code Information:** 80203

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**FZCCE 57562**

**Zucchini (Cucurbita spp) IgE**

**Specimen Requirements:** Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume:** 0.5 mL

**Transport Temperature:**
- Serum Refrigerated (preferred) 28 days
  - Frozen 365 days
  - Ambient 28 days

**CPT Code Information:** 86003

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**MULT 35577**

**Zygosity Testing (Multiple Births)**

**Specimen Requirements:** Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant. Submit only 1 of the following specimens: Specimen Type: Whole blood

**Container/Tube:** Lavender top (EDTA) or yellow top (ACD)

**Specimen Volume:** 3 mL

Collection Instructions: 1. Invert several times to mix blood. 2. Send specimen in original tube.

Specimen Stability Information: Ambient (preferred)/Refrigerated

Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on both the prenatal and the maternal specimens. Specimen Type: Amniotic fluid

**Container/Tube:** Amniotic fluid container
Volume: 20 mL Specimen Stability Information: Refrigerated (preferred)/Ambient Specimen Type: Chorionic villi Container/Tube: 15-mL tube containing 15 mL of transport media Specimen Volume: 20 mg Specimen Stability Information: Refrigerated Acceptable: Specimen Type: Confluent cultured cells Container/Tube: T-25 flask Specimen Volume: 2 flasks Collection Instructions: Submit confluent cultured cells from another laboratory. Specimen Stability Information: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume:** Blood: 0.5 mL Amniotic Fluid: 10 mL Chorionic Villi: 5 mg

**Transport Temperature:**
Varies Varies

**CPT Code Information:** 81265 Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells; Fibroblast Culture for Genetic Test; 88233-Tissue culture, skin or solid tissue biopsy (if appropriate); 88240-Cryopreservation (if appropriate); Amniotic Fluid Culture/Genetic Test; 88235-Tissue culture for amniotic fluid (if appropriate); 88240-Cryopreservation (if appropriate); Added as needed: 81266 each additional specimen (eg additional cord blood donor, additional fetal samples from different cultures, or additional zygosity in multiple birth pregnancies);