



**CYTOCHROME P450 3A4 GENOTYPE, BLOOD**  
**Test ID: 3A4B**

**USEFUL FOR:** An aid to clinicians in determining therapeutic strategies for drugs that are metabolized by CYP3A4, including atorvastatin, simvastatin and lovastatin.

**ADDITIONAL TESTS:**

| Test ID | Reporting Name       | Available Separately | Always Performed |
|---------|----------------------|----------------------|------------------|
| NPLXT   | Rapid DNA Extraction | No                   | Yes              |

**TESTING ALGORITHM:** When this test is ordered, DNA extraction will always be performed at an additional charge; however, for multiple whole blood EDTA genotype test orders, only a single specimen is needed. The DNA extraction will only be charged once.

**METHODOLOGY:** Polymerase Chain Reaction (PCR) 5'-Nuclease End-Point Allelic Discrimination Analysis

**REFERENCE VALUES:** An interpretive report will be provided.

**SPECIMEN REQUIREMENTS:**

**NOTE:** Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Whole Blood EDTA Genotype Tests in Special Instructions of the on-line test catalog 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.

**ADDITIONAL INFORMATION:** Patients who had a heterologous blood transfusion within the preceding 45 days (6 weeks), or who have received an allogeneic bone marrow transplant, can have false genetic test results as human DNA present in the blood may be a mixture of patient and donor DNA. For these patients, saliva specimen (rather than blood) should be submitted; order 3A4O, Cytochrome P450 3A4 Genotype, Saliva.

**FORMS:** 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 (Supply T576) is available in Special Instructions.

**SPECIMEN STABILITY INFORMATION:**

| Specimen Type    | Temperature         | Time |
|------------------|---------------------|------|
| Whole Blood EDTA | Ambient (preferred) |      |
|                  | Refrigerated        |      |

**CAUTIONS:**

- This test does not detect polymorphism or mutations other than the specific intron 6 polymorphism.
- This test is not indicated for stand-alone diagnostic purposes.
- This test is not intended to be used to predict drug response.
- Drug-drug interactions and drug/metabolite inhibition must be considered.
- Drug/metabolite inhibition can occur, resulting in inhibition of CYP3A4 catalytic activity.
- Patients may also develop toxicity problems if liver and kidney function are impaired.
- CYP3A4 genotyping should not be ordered for managing patients receiving fluvastatin, rosuvastatin, or pravastatin since these drugs are NOT metabolized appreciably by CYP3A4.
- Blood transfusions or bone marrow transplantation prior to having blood drawn for DNA analysis can generate false results as DNA in the specimen may be a mix of patient and donor DNA. Alternative saliva specimen type can be ordered under 3A4O/61242 Cytochrome P450 3A4 Genotype, Saliva.
- Rare polymorphisms exist that could lead to false-negative or false-positive results. If results obtained do not match the clinical findings, additional testing could be considered.

**FEE:** Please contact your Regional Manager for your account's fee information.

**CPT CODE:****Cytochrome P450 3A4 Genotype, Blood**

81401-CYP3A4 (Cytochrome P450, family 3, subfamily A, polypeptide 4) (e.g., drug metabolism), common variants (e.g., \*2, \*3, \*4, \*5, \*6)

**For nonparticipating payers: Cytochrome P450 3A4 Genotype, Blood**

83898-Amplification, target, each nucleic acid sequence

83896 x 2-Nucleic acid probe, each

83912-Interpretation and report

**Rapid DNA Extraction:** 83890-Molecular extraction

**Day(s) Set Up:** Monday

**Analytic Time:** 1 day

QUESTIONS: Contact your Mayo Medical Laboratories' Regional Manager or Shirley Pokorski, MML Laboratory Technologist Resource Coordinator  
Telephone: 800-533-1710