



Hematologic Disorders, Leukemia/Lymphoma; Flow Hold Varies

Test ID: HLLFH

USEFUL FOR:

- Evaluating lymphocytosis of undetermined etiology
- Identifying B- and T-cell lymphoproliferative disorders involving blood and bone marrow
- Distinguishing acute lymphoblastic leukemia (ALL) from acute myeloid leukemia (AML)
- Immunologic subtyping of ALL
- Distinguishing reactive lymphocytes and lymphoid hyperplasia from malignant lymphoma
- Distinguishing between malignant lymphoma and acute leukemia
- Phenotypic subclassification of B- and T-cell chronic lymphoproliferative disorders, including chronic lymphocytic leukemia, mantle cell lymphoma, and hairy cell leukemia
- Recognizing AML with minimal morphologic or cytochemical evidence of differentiation
- Recognizing monoclonal plasma cells

REFLEX TESTS:

Test ID	Reporting Name	Available Separately	Always Performed
80997	Flow Cytometry, Cell Surface, First	No (Bill Only)	No
81047	Flow Cytometry, Cell Surface, Addl	No (Bill Only)	No
88465	Flow Cytometry Interp, 2-8 Markers	No (Bill Only)	No
88466	Flow Cytometry Interp, 9-15 Markers	No (Bill Only)	No
88467	Flow Cytometry Interp, 16 or greater	No (Bill Only)	No

TESTING ALGORITHM: This test is designed to delay the start of leukemia/lymphoma immunophenotyping until the preliminary assessment is completed. Specimens are held in lab until noon (12 p.m. CST) 2 days after the collection date. For testing to be cancelled, the client must call Mayo Medical Laboratories at 800-533-1710. The testing process will be initiated and fully charged if no notification is received within this time period. To expedite the beginning testing, please call Mayo Medical Laboratories at 800-533-1710.

The testing process begins with a screening panel. The screening panel will be charged based on number of markers tested (80997 Flow Cytometry, Cell Surface, First for first marker, 81047 Flow Cytometry, Cell Surface, Additional for each additional marker). In addition, reflex testing may occur to fully characterize a disease state or clarify any abnormalities from the screening test. Reflex tests will be performed at an additional charge for each marker tested (80997 Flow Cytometry, Cell Surface, First if applicable, 81047 Flow Cytometry, Cell Surface, Additional, if applicable).

This limited panel, together with the provided clinical history and morphologic review, is used to determine what, if any, further testing is needed for disease diagnosis or classification. If additional testing is required, it will be added per algorithm to fully characterize a disease state with a charge per unique antibody tested.

Note: FISH or Molecular testing may be recommended by the Mayo pathologist in some cases. They will contact the referring physician or pathologist to confirm the addition of these tests.

METHODOLOGY: Flow Cytometry

REFERENCE VALUES: When performed, an interpretive report will be provided. This test will be processed as a laboratory consultation. An interpretation of the immunophenotypic findings and correlation with the morphologic features will be provided by a Hematopathologist.

SPECIMEN REQUIREMENTS: **Specimen must arrive within 96 hours for peripheral blood, bone marrow, and tissue, or 72 hours for fluids.**

Due to specimen stability, CSF is not appropriate for this test.

This test is not appropriate for and cannot support diagnosis of sarcoidosis, hypersensitivity pneumonitis, interstitial lung diseases, or differentiating between pulmonary tuberculosis and sarcoidosis (requests for CD4/CD8 ratios). **Specimens sent for these purposes will be rejected.** Bronchoalveolar lavage specimens submitted for evaluation for leukemia or lymphoma are appropriate to send for this test.

The following information is required:

1. Pertinent clinical history including reason for referral or clinical indication
2. Clinical or morphologic suspicion
3. Specimen source
4. Date and time of collection

Forms: Hematopathology Patient Information Sheet (Supply T676) in Special Instructions

Submit only 1 of the following specimens:

Specimen Type: Blood

Container/Tube:

Preferred: Yellow top (ACD solution B)

Acceptable: ACD (solution A), heparin, EDTA

Specimen Volume: 10 mL

Collection Instructions:

1. Do not transfer blood to other containers.
2. Include 5- to 10-unstained blood smears, if possible.
3. Label specimen as blood.

Specimen Stability Information: Ambient/Refrigerated <96 hours

Specimen Type: Bone marrow

Container/Tube:

Preferred: Yellow top (ACD solution B)

Acceptable: ACD (solution A), heparin, EDTA

Specimen Volume: 1-5 mL

Collection Instructions:

1. Submission of bilateral specimens is not required.
2. Include 5- to 10-unstained bone marrow aspirate smears, if possible.
3. Label specimen as bone marrow.

Specimen Stability Information: Ambient/Refrigerated < 96 hours

Additional Information: If cytogenetic tests are also desired when drawing HLLFH/34854 Hematologic Disorders, Leukemia/Lymphoma; Flow Hold Varies, 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 Type: Fluid

Sources: Serous effusions

Container/Tube: Body fluid container

Specimen Volume: 20 mL

Collection Instructions:

1. If possible, the 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/Ambient < 72 hours

Specimen Type: Tissue

Container/Tube: Sterile container with 15 mL of tissue culture medium (eg, Hank's balanced salt solution [Supply 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: Ambient/Refrigerated < 96 hours

Additional Information:

1. Date, time of collection, tissue type, and location are required.
2. A pathology/diagnostic report including the client surgical pathology case number, a brief history, reason for referral or clinical suspicion are required before the specimen will be processed.

CAUTIONS: Specimens will be initially triaged to determine which, if any, of the immunophenotyping panels should be performed.

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

CPT CODE:

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)

DAY(S) SET UP: Specimens are processed Monday through Sunday and reported Monday through Friday

ANALYTIC TIME: 2 days

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