

FLOW CYTOMETRY SPECIMEN COLLECTION AND TRANSPORT GUIDELINES



Instructions for specimen collection and preparation including specific specimen type and volume requirements for a particular test or tests can be found in the [Michigan Medicine Laboratories \(MLabs\) Test Catalog](#) or by calling the MLabs Client Services at 800.862.7284. The quality of your test results depends upon proper collection, preparation and transport of the specimen according to the published criteria. In the event a specimen does not meet standards for quality laboratory testing, MLabs may need to cancel the order and will notify you of such cancellation.

The MLabs Flow Cytometry Laboratory offers a number of panels and assays for evaluation of hematopathological disorders. Please contact the MLabs Client Services for assistance in finding test information for procedures not listed in the Test Catalog.

Preferred Specimen Types

Test Name	Container	Normal Volume	Minimum Volume	Appropriate for:
Peripheral Blood	Green top (sodium heparin)	7 – 10 mL	1 mL	Immunophenotypic Analysis Panels
Peripheral Blood	Yellow top (ACD)	7 – 10 mL	1 mL	Immunodeficiencies Profiles Immunotherapy Profile, Rituximab Organ Transplant Monitoring Profile PNH Marker Panel
Bone Marrow Aspirate	Green top (sodium heparin)	1 – 2 mL	1 mL	Immunophenotypic Analysis Panels
Bone Marrow Biopsy	RPMI tissue culture medium			Immunophenotypic Analysis Panels
Fine Needle Aspirate	RPMI tissue culture medium			Immunophenotypic Analysis Panels
Fresh Tissue	RPMI tissue culture medium			Immunophenotypic Analysis Panels
CSF	Sterile Container	5 – 10 mL	1 mL	Immunophenotypic Analysis Panels
Body Fluid	Sterile Container	20 – 50 mL	5 mL	Immunophenotypic Analysis Panels

Specimen Collection

PERIPHERAL BLOOD, GREEN TOP (SODIUM HEPARIN)

Collect specimen in a green top (sodium heparin) tube. Send intact whole blood stored at room temperature within 12 hours of collection. Include an unstained peripheral blood smear and a copy of the patient's most recent complete blood count (CBC) and white cell differential. Green top tube containing lithium heparin is not acceptable.

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PERIPHERAL BLOOD, YELLOW TOP (ACD)

Collect specimen in a yellow top (ACD solution A or B) tube(s). Include a copy of the patient's complete blood count (CBC) and white cell differential drawn concurrently or within the previous 8 hours. Send intact whole blood stored at room temperature within 72 hours of collection; do not refrigerate. Include relevant patient history and clinical or morphological findings and suspicions.

BONE MARROW ASPIRATE

Add 1 – 2 mL of first pull bone marrow aspirate to a green top (sodium heparin) tube. Send intact specimen stored at room temperature within 12 hours of collection. Include 4 unstained aspirate smears, an unstained peripheral blood smear and a copy of the patient's most recent complete blood count (CBC) and white cell differential.

BONE MARROW BIOPSY OR FINE NEEDLE ASPIRATE (FNA)

Submerge in RPMI tissue culture medium for optimal cell viability (sterile saline is acceptable). Send at room temperature within 12 hours of collection.

FRESH TISSUE

Mince tissue and submerge in RPMI tissue culture medium for optimal cell viability (sterile saline is acceptable). Send at room temperature within 12 hours of collection.

CSF OR BODY FLUID

Add body fluid (e.g., CSF, pleural, peritoneal) to a sterile, leak-proof container. Include a copy of the patient's most recent body fluid cell count and differential. If possible, an original cytospin preparation (preferably unstained) should be included with CSF specimens for correlative morphological evaluation. Send at room temperature within 12 hours of collection. Note that the volume required for CSF and Body Fluid is dependent on the cellularity of the specimen. Immunophenotypic analysis may not be successful if cell count is below 5 cells/cmm with ≤ 1 mL of sample.

Questions

Call 800.862.7284 or mlabs.umich.edu