





Flow cytometry in the clinical setting is most commonly used for the evaluation of leukemia and lymphoma. Cells of lymphoid and hematopoietic origin express various surface markers which can be tagged with fluorescent dye bound antibodies. These antibody bound cells can be passed single file through the cytometer flow cell, excited by a laser, and individually enumerated and phenotyped. The data generated from analysis by flow cytometry may be evaluated in combination with cell morphology and other studies and is integral to arriving at a differential diagnosis which may serve as the basis for determining treatment selection.

Requirements for Bone Marrow Biopsies	Collection Tube	Directions	Usage, Specimen Requirements, Transport and Turn Around Time
Peripheral Blood	 <p>Green or Purple Top</p>	Draw specimen in EDTA (purple top) or Sodium Heparin (green top) tube. (<i>Lithium Heparin is not suitable for flow cytometry.</i>)	Transport: <i>If unable to transport immediately, refrigerate sample until pick up. When transporting place with a cold pack.</i> Deliver to Laboratory as soon as possible following collection.
Bone Marrow	 <p>Green or Purple Top</p>	Place aspirate (1.5-3 ml) directly in tube containing either Sodium Heparin (green top) or EDTA (purple top) and invert gently several times to mix. NOTE: If Cytogenetics is required, reserve one Sodium Heparin (green top) tube.	Transport: <i>If unable to transport immediately, refrigerate sample at 2-4°C until pick up. When transporting place with a cold pack.</i> Deliver to Laboratory as soon as possible following collection.
Fine Needle Aspiration Biopsy	 <p>Small container with pink liquid</p>	Specimen should be collected in RPMI. Several passes should be made, rinsing the needle thoroughly in RPMI after each pass. (Use clean, sterile needle for each pass). Specimens fixed in Cytolyt or other cytology fixative are unsuitable for flow cytometry	Transport: <i>To lab as soon as possible at 2-4°C (refrigerated) with a cold pack.</i>
Tissue	 <p>Small container with pink liquid</p>	Fresh tissue (preferably 1cm 3*) should be placed directly in RPMI. Specimens fixed in formalin are unsuitable for flow cytometry. Please submit a separate specimen for routine histologic examination in formalin, if feasible.	Transport: <i>To lab as soon as possible at 2-4°C (refrigerated) with a cold pack.</i>