



SPECIMEN REQUIREMENTS

FLOW CYTOMETRY SPECIMEN REQUIREMENTS

Test Name	Specimen Requirements	Lab Analysis Performed	Comments
Leukemia/ Lymphoma Profile (Including Zap-70 and all cytoplasmic markers)	<u>Peripheral Blood</u> 10 mL Sodium Heparin & 5 mL EDTA Lavender Room Temperature	Identification of relative proportions of hematopoietic (lymphoid, myeloid, monocytic) cells and their subsets.	Provide working diagnosis, WBC and differential. Indicate if known remission, relapse, or first occurrence by completing patient information sheet. BM and Peripheral Blood should be stored at room temperature when sent immediately to the lab, if greater than 4 hours store at 4°C.
	<u>Bone Marrow</u> 3 mL Sodium Heparin & 2-3 unstained slides Room Temperature		
	<u>Tissue</u> Tissue submitted minced in Tissue Transport Media (RPMI) Refrigerated @ 4°C		Tissue sample should be sent to the laboratory minced in pieces and placed tissue transport media. Sample should be refrigerated.
	<u>CSF & Body Fluid</u> 5x10 ⁶ total cells (if possible)		Fluids and CSF should be refrigerated. As much volume as possible to obtain the total number of cells needed for testing should be submitted.
PNH	<u>Peripheral Blood</u> 5 ml EDTA Lavender Room Temperature	Immunophenotypic expression of CD55 and CD59 on granulocytes and red blood cells.	Sample must be less than 48 hours old.



SPECIMEN REQUIREMENTS

FISH SPECIMEN REQUIREMENTS

Test Name	Specimen Requirements	Transport Temperature	Comments
Chronic Lymphocytic Leukemia (CLL) and Lymphoproliferative Disorders (LPD) Multiple Myeloma (MM) Acute Leukemia (AML/ALL) and Myelodysplasia (MDS) Chronic Myelogenous Leukemia (CML) And	1-4 mL Bone Marrow Aspirate in Sodium Heparin Green Top OR 2-5 peripheral blood smears OR 2 mL Sodium Heparin or EDTA Lavender Peripheral Blood	Refrigerate specimen at 4°C	Sample must be less than 72 hours old. May be ordered STAT for expedited turn around time.



SPECIMEN REQUIREMENTS

CYTOGENETICS SPECIMEN REQUIREMENTS

Test Name	Specimen Requirements	Comments
Chromosome Analysis	<u>Peripheral Blood</u> 4 mL Sodium Heparin (green top) Store Refrigerated@ 4°C	Provide working diagnosis. Indicate if known remission, relapse, or first occurrence by completing patient information sheet.
	<u>Bone Marrow</u> 1-2 mL Sodium Heparin Store Refrigerated@ 4°C	
	<u>Tissue</u> Fresh tissue submitted in TissueTransport Media(RPMI) Store Refrigerated@ 4°C	Fresh tissue sample should be sent to the laboratory in tissue transport media. Sample should be refrigerated, do not freeze.

MOLECULAR SPECIMEN REQUIREMENTS

Test Name: BCR-ABL, Quantitative by PCR

Specimen Requirement:

- 5 ml whole blood in purple-top (EDTA) tube
- Sample collected in green (heparin anticoagulant) tube is not acceptable

Specimen Storage and Transport Requirement:

- Deliver sample to the laboratory within 48 hours after collection.
- Transport sample with ice pack
- Do not freeze

Methodology:

Quantitative reverse-transcriptase polymerase reaction (QRT-PCR)



SPECIMEN REQUIREMENTS

Test Name: B-Cell Gene Rearrangement

Specimen Requirement:

Preferred; 1-3 ml whole blood in purple-top (EDTA) tube
Alternate; 1-2 ml bone marrow in purple-top (EDTA) tube
Formalin-Fixed, Paraffin-embedded tissue
Fresh tissue

Specimen Storage and Transport Requirement:

Deliver peripheral blood and bone marrow samples immediately to the laboratory preferably within 24 hours of collection, otherwise refrigerate samples up to 5 days.
For shipping, maintain sample at room temperature or refrigerator temperature
Protect formalin fixed, paraffin-embedded tissue from extreme heat (ship with ice cooler)
Place fresh tissue in appropriate media (e.g., RPMI) to preserve cell integrity.
Do not freeze

Methodology:

Polymerase Chain Reaction (PCR) and Gel Electrophoresis

Test Name: T-Cell Gene Rearrangement

Specimen Requirement:

Preferred; 1-3 ml whole blood in purple-top (EDTA) tube
Alternate; 1-2 ml bone marrow in purple-top (EDTA) tube
Formalin-Fixed, Paraffin-embedded tissue
Fresh tissue



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Specimen Storage and Transport Requirement:

Deliver peripheral blood and bone marrow samples immediately to the laboratory preferably within 24 hours of collection, otherwise refrigerate samples up to 5 days.

For shipping, maintain sample at room temperature or refrigerator temperature

Protect formalin fixed, paraffin-embedded tissue from extreme heat (ship with ice cooler)

Place fresh tissue in appropriate media (e.g., RPMI) to preserve cell integrity.

Do not freeze

Methodology:

Polymerase Chain Reaction (PCR) and Gel Electrophoresis

Test Name: JAK2 Allele Discrimination Assay, Qualitative by PCR

Specimen Requirement:

1 to 5 ml of whole blood in purple-top (EDTA) tube

1 to 3 ml of bone marrow in purple-top (EDTA) tube

Specimen Storage and Transport Requirement:

Transport specimen within 24 hours of collection or refrigerate up to seven (7) days until sample can be transported.

Ship specimen refrigerated

Do not freeze.

Methodology:

Multiplexed real-time PCR assay using allele specific primers that are distinctively-labeled with fluorescent dyes to facilitate the identification of JAK2 mutant and wild-type alleles.



SPECIMEN REQUIREMENTS

Test Name: MPL W515L and W515K Allele Discrimination Assay, Qualitative by PCR

Specimen Requirement:

- 1 to 5 ml of whole blood in purple-top (EDTA) tube
- 1 to 3 ml of bone marrow in purple-top (EDTA) tube

Specimen Storage and Transport Requirement:

- Transport specimen within 24 hours of collection or refrigerate up to seven (7) days until sample can be transported.
- Ship specimen refrigerated
- Do not freeze.

Methodology:

Multiplexed real-time PCR assay using allele specific primers that are distinctively-labeled with fluorescent dyes to facilitate the identification of MPL mutant and wild-type alleles.

Test Name: KRAS Mutation Analysis

Specimen Requirement:

- Formalin Fixed, Paraffin Embedded Tissue (Paraffin Block)
- 3-5 Paraffin embedded tissue sections (H&E slide is required if paraffin block cannot be submitted)

Specimen Storage and Transport Requirement:

- Protect formalin fixed, paraffin-embedded tissue from extreme heat.
- Ship specimen with an ice pack to prevent wax from melting during shipment.

Methodology:

Polymerase chain reaction (PCR) using specific primers and probes to selective amplify and detect mutated DNA in the KRAS oncogene region.



SPECIMEN REQUIREMENTS

Test Name: EGFR Mutation Analysis

Specimen Requirement:

Formalin Fixed, Paraffin Embedded Tissue (Paraffin Block)

3-5 Paraffin embedded tissue section (H&E slide is required if paraffin block cannot be submitted)

Specimen Storage and Transport Requirement:

Protect formalin fixed, paraffin-embedded tissue from extreme heat.

Ship specimen with an ice pack to prevent wax from melting during shipment.

Methodology:

Polymerase chain reaction (PCR) using specific primers and probes to selective amplify and detect one of 29 somatic mutations in the EGFR oncogene region.

Test Name: BRAF Mutation Analysis

Specimen Requirement:

Formalin Fixed, Paraffin Embedded Tissue (Paraffin Block)

3-5 Paraffin embedded tissue section (H&E slide is required if paraffin block cannot be submitted)

Specimen Storage and Transport Requirement:

Protect formalin fixed, paraffin-embedded tissue from extreme heat.

Ship specimen with an ice pack to prevent wax from melting during shipment.

Methodology:

Polymerase chain reaction (PCR) using specific primers and probes to selective amplify and detect V600E and/or V600K mutations in the BRAF oncogene region.



SPECIMEN REQUIREMENTS

FREE LIGHT CHAINS

Test Name	Specimen Requirements	Comments
Kappa/Lambda Quantitative Free Light Chains with Ratio, Serum	<u>Peripheral Blood</u> One 4 mL SST (Gold Top) Remove serum from cells ASAP.	Transport: 2 mL serum at 2-8°C. (Min: 0.5 mL) Unacceptable Conditions: Plasma or ambient specimens. Stability: After separation from cells: Ambient: 2 hours; Refrigerated: 1 week; Frozen: 2 weeks