



# Laboratory Service Manual

**Lab Dept:** Anatomic Pathology

**Test Name:** 11q23 GENE REARRANGEMENT

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## ***General Information***

**Lab Order Codes:** 11Q

**Synonyms:** 11q23; AF4/MLL; MLL/AF9; MLL Gene Mutation, Molecular

**CPT Codes:** 83892 (x2) - Molecular diagnostics; enzymatic digestion  
83896 - Molecular diagnostics; nucleic acid probe, each  
83894 (x4) – Separation by gel electrophoresis  
83902 – Reverse transcription  
83898 (x2) – Amplification of nucleic acid  
83891 (x2)– Isolation or extraction of highly purified nucleic acid (if both DNA and RNA testing are done)  
83897 – Nucleic acid transfer

**Test Includes:** RT/PCR for detection of MLL/AF4 [t(4;11)], and MLL/AF4 [(9;11)]; Southern blot analysis for MLL gene rearrangements.

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## ***Logistics***

**Test Indications:** Useful for the diagnosis and detection of minimal residual disease of MLL gene rearrangements associated with acute lymphoblastic and acute myeloid leukemias.

**Lab Testing Section:** Anatomic Pathology - Sendouts

**Referred to:** Fairview-University Diagnostic Laboratories; Molecular Diagnostics (Fairview Order Code: MD - 11Q23)

### **Phone Numbers:**

Minneapolis: 612-813-6280

Saint Paul: 651-220-6550

**Test Availability:** Monday - Friday; for best results specimen should arrive by 1400 Friday



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**Turnaround Time:** 10 - 21 days

**Special Instructions:** N/A

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## ***Specimen***

**Specimen Type:** Blood, bone marrow, or frozen tissue

**Container:** Yellow (ACD, Solution A) tube available from the lab

**Draw Volume:** Peripheral blood: 10 mL (Minimum: 5 mL)

Bone marrow aspirate: 5 mL (Minimum: 2 mL)

Tissue: 5mm x 5 mm x 5 mm (Minimum: 3mm x 3mm x 3 mm)

**Processed Volume:** Same as Draw Volume

**Collection:** Peripheral blood: Collect 10 mL blood in yellow ACD tube

Bone marrow aspirate: Aspirate ACD solution into syringe from open ACD tube; collect 5 mL bone marrow into syringe. Deliver to laboratory in syringe.

Tissue: Collect in sterile container; deliver to the laboratory within 1 hour, or freeze specimen (liquid nitrogen or dry ice) and transport to the laboratory frozen (-70°C).

**Special Processing:** Store at room temperature. **Do Not** freeze. Contact laboratory prior to shipping.

Ship blood and bone marrow at room temperature. Must arrive within 24 hours. Ship fresh tissue at room temperature to arrive within 1 hour; alternatively, ship in dry ice to arrive within 24 hours.

**Patient Preparation:** Physician preference

**Sample Rejection:** Specimen more than 3 days old, clotted specimen, insufficient volume, incorrect tube, frozen, mislabeled or unlabeled specimens

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## ***Interpretive***

**Reference Range:** Results are reported as negative (germline or no rearrangement noted by Southern), positive (clonal rearrangement indicating clonal cell populations present by Southern) or specific rearrangement as detected by RT/PCR. Correlations with immunophenotypic, histopathologic, and cytogenetic data will be included with the interpretation of the molecular data when available.



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<b>Limitations:</b>	The use of anticoagulant other than ACD may interfere with the assay.
<b>Methodology:</b>	RNA reverse transcription, DNA amplification and Southern blot.
<b>Contraindications:</b>	N/A
<b>References:</b>	<a href="#">Fairview-University Diagnostic Laboratory Web Page</a> March 2009
<b>Updates:</b>	1/17/2006: 2006 CPT updates, EDTA is no longer an acceptable tube type. 3/20/2006: 2007 CPT update 3/4/2009: Specimen rejection criteria updated.