BCR/ABL t(9;22), p190 kD Analysis (Quantitative)

This test detects the BCR-ABL, m-bcr, p190 kD fusion transcript, type e1a2 from RNA extracted from blood or bone marrow specimens. It is used for diagnosis and prognosis of adult and pediatric with Philadelphia chromosome positive acute lymphoblastic leukemia (ALL).

Testing Method and Background

RNA is extracted from white blood cells in peripheral blood or bone marrow and reverse transcribed to cDNA. Real-time quantitative PCR is performed to amplify the BCR-ABL transcripts as well as beta 2 microglobulin (a housekeeping gene) transcripts. The sensitivity of the assay is approximately one BCR-ABL-bearing cell in 100,000 total cells. Levels detected in peripheral blood and bone marrow samples are generally equivalent.

The BCR-ABL, m-bcr, p190 kD fusion transcript, type e1a2, is found in 25- 30% cases of adult and 2-5% of childhood cases of acute lymphoblastic leukemia (ALL). In the case of m-bcr breakpoints, the first econ of the BCR gene (e1) is juxtaposed to the second exon of the ABL gene (a2), resulting in the fusion transcript (e1-a2) encodes a 190kD chimeric protein (p190). In the ALL subset, this genetic lesion is known to confer a very poor prognosis and consequently its detection is important in the planning of aggressive therapies. Less frequently it is associated with acute myelogenous leukemia (AML) and in sporadic cases is the p190 encoding BCR-ABL gene is found in Chronic myeloid leukemia (CML).

Highlights of BCR/ABL t(9;22), p190 kD Analysis

Targeted Region

t(9;22) : BCR-ABL, m-bcr, p190 kD fusion transcript, type e1a2

- **Quantitative monitoring**
  Residual leukemic cell monitoring is valuable in assisting clinical decision-making.
- **Accurate Results with established standard limit of detection**
  This assay has a limit of detection verified one BCR-ABL bearing cell in 100,000 total cells.

Ordering Information

Get started (non-HFHS): Print a Molecular Hematologic Testing requisition form online at www.HenryFord.com/HFCPD

Get started (HFHS): Order through Epic using test "p190" (MOL80361 Blood, MOL80362 Bone Marrow)

Specimen requirements:

- Peripheral Blood - 3ml in lavender top tube (EDTA) **Specimen stability: Ambient - 72 hours; Refrigerated - 1 week, PAXgene tube (RNA stabilization) for up to 48 hours room temp or longer periods cold**
- Bone Marrow - 1-3ml, anticoagulated with either heparin or EDTA, **Specimen stability: Refrigerated - 1 week** (ship cold)
- Extracted RNA or cDNA - from a CLIA-certified Laboratory

Cause for Rejection: Clotted, hemolyzed, or frozen specimens, improper anticoagulant, tubes not labeled with dual patient identification, non-dedicated tubes.

TAT: 3-5 business days (after Prior Authorization obtained)

Mail test material to:
Henry Ford Center for Precision Diagnostics
Pathology and Laboratory Medicine
Clinic Building, K6, Core Lab, E-655
2799 W. Grand Blvd., Detroit, MI 48202

CPT Codes: 81207, G0452

Contact us: Client Services, Account and Billing Set-up, and connect with a Molecular Pathologist at (313) 916-4DNA (4362)

For more information on Comprehensive Molecular Services, visit our website
www.HenryFord.com/HFCPD

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