BCR/ABL t(9;22), p210 kD

This quantiative test detects the BCR-ABL, M-bcr, p210 kD fusion transcript from RNA extractive from blood and bone marrow specimens. The BCR-ABL, M-bcr, p210 kD fusion transcript is found in most cases of chronic myelogenous leukemia (CML).

Testing Method and Background

This assay will detect both e13a2 (previously b2a2) and e14a2 (previously b3a2) breakpoints and is indicated for the detection at diagnosis and for minimal residual disease monitoring. 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-ABL1 transcripts as well as ABL1.

Chronic myeloid leukemia (CML) is a clonal myeloproliferative neoplasm. Most cases of CML are associated with the presence of t(9;22) resulting in a small derivative chromosome 22 known as the Philadelphia (Ph1) chromosome. In 95% of CML patients and approximately 5% of Ph1 positive adult ALL patients, the breakpoint on chromosome 22 is located between exons 12 and 16 of the BCR gene, in the so called major break point cluster region M-bcr. The breakpoint on chromosome 9 is located in most cases between exons 1 and 2 in the ABL gene. The transcription product of this BCR-ABL fusion gene is an 8.5 kb aberrant fusion RNA with two junctional variants: b2a2 and b3a2 that give rise to the BCR-ABL chimeric protein (p210), a tyrosine kinase with deregulated activity.

Highlights of BCR/ABL t(9;22), p210 kD

Targeted Region

t(9;22) : BCR-ABL, m-bcr, p210 kD e13a2 (previously b2a2) and e14a2 (previously b3a2) breakpoints

- **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.
- **Indication for Testing and Clinical Relevance:**
  - Detection of BCR-ABL, p210, M-bcr is useful for diagnosis of chronic myelogenous leukemia (CML).
  - Provides an appropriate monitoring strategy for patients with BCR/ABL expressing CML.

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 "BCR/ABL t(9;22), p210 kD" (MOL80351 Blood, MOL80352 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

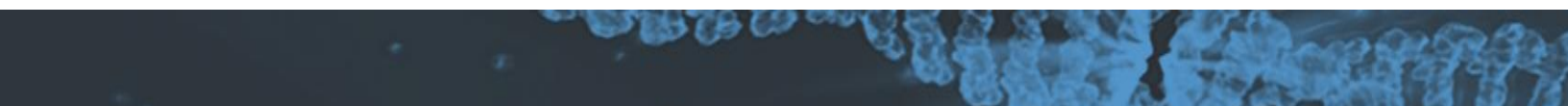
Cause for Rejection: Clotted, hemolyzed, or frozen specimens, improper anticoagulant, tubes not labeled with dual patient identification, non-dedicated tubes.

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: 81206, 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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