



# Test Catalog

Diagnostic. Prognostic. Predictive. Predisposition.



## Eosinophilia FISH Panel

### Methodology

FISH

### Test Description

**Probes:** PDGFRA, CHIC2, FIP1L1 (4q12) | PDGFRb (5q33) | FGFR1 (8p11) | CFBF (16q22) | Probes may be ordered separately.

**Disease(s):** Lymphoid and myeloid neoplasms with eosinophilia, including: Chronic eosinophilic leukemia, eosinophilia, MPN, AML-NOS, lymphoblastic lymphoma, CMML, AML with inversion 16

### Clinical Significance

The eosinophilia FISH panel is used to aid in the diagnosis of myeloid and lymphoid neoplasms with eosinophilia and prediction of therapeutic response. The clinical and morphologic features of these diseases can overlap, but each mutation has a characteristic presentation. FIP1L1-PDGFRa rearrangement is generally found in CEL, but the presentation can be as AML, T-lymphoblastic lymphoma, or both simultaneously. Rearrangement is usually cryptic by routine cytogenetics. Myeloid neoplasms with PDGFRB usually present as chronic myelomonocytic leukemia, but may also present as atypical chronic myeloid leukemia (aCML), CEL, MPN with eosinophilia, AML and juvenile myelomonocytic leukemia (JMML). Myeloid and lymphoid neoplasms with FGFR1 are generally aggressive and may present as MPN, AML, T- or B-LBL/ALL, or mixed phenotype acute leukemia. PDGFRA and PDGFRB mutations predict responsiveness to tyrosine kinase inhibitors, but MPN with FGFR1 rearrangement do not respond to imatinib and there is no currently established TKI therapy, although some promising new therapies have been reported. AML with inversion 16 may present with less than 20% blasts and can be a subtle abnormality by conventional cytogenetics, so confirmation with FISH is recommended.

### Specimen Requirements

- **Bone Marrow Aspirate:** 1-2 mL sodium heparin tube. EDTA tube is acceptable.
- **Peripheral Blood:** 2-5 mL sodium heparin tube. EDTA tube is acceptable.
- **Fresh, Unfixed Tissue:** Tissue in RPMI.
- **Bone Marrow/ Peripheral Blood Smear or Fresh Tissue Touch Preparation Slides:** minimum 4 slides labeled with specimen type.
- **Fluids:** Equal parts RPMI to specimen volume
- **Fixed Cell Suspension:** A client fixed cell suspension may be submitted for testing as long as it is received in 3:1 Methanol:Glacial Acetic Acid.
- **Paraffin Block or Cut Slides:** Not available.
- **Note:** Please exclude biopsy needles, blades, and other foreign objects from transport tubes. These can compromise specimen viability and yield, and create hazards for employees.

### Storage & Transportation

Use cold pack for transport, making sure cold pack is not in direct contact with specimen. For fresh samples: ship same day as drawn whenever possible; specimens <72 hours old preferred.

### CPT Code(s)\*

88374x4 automated. Codes may differ if manual analysis is performed.

### New York Approved

Yes

**Level of Service**

Technical, Global

**Turnaround Time**

3-5 days

NeoGenomics Laboratories is a specialized oncology reference laboratory providing the latest technologies, testing partnership opportunities, and interactive education to the oncology and pathology communities. We offer the complete spectrum of diagnostic services in molecular testing, FISH, cytogenetics, flow cytometry, and immunohistochemistry through our nation-wide network of CAP-accredited, CLIA-certified laboratories.

Committed to research as the means to improve patient care, we provide Pharma Services for pharmaceutical companies, in vitro diagnostic manufacturers, and academic scientist-clinicians. We promote joint publications with our client physicians. NeoGenomics welcomes your inquiries for collaborations. Please contact us for more information.

\*The CPT codes provided with our test descriptions are based on AMA guidelines and are for informational purposes only. Correct CPT coding is the sole responsibility of the billing party.

Please direct any questions regarding coding to the payor being billed.



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