FISH Analysis – Myelodysplastic Syndrome (MDS)

**CPT Code(s):** 88237, 88275, 88271 (x per probe)

**Service Code (IU Health):** 53101259, 53100707, 53100640

**Ordering Recommendation:** For myelodysplastic syndromes (MDS). It is useful for detection of a neoplastic clone that is associated with common chromosome abnormalities observed in patients with MDS, to evaluate specimens in which standard cytogenetic analysis has been unsuccessful, and to identify and track chromosome abnormalities in patients with myeloid malignancies including follow-up of patients to evaluate response to therapy

**Synonyms:** FISH, hematopoietic malignancy, acute myeloid leukemia, AML.

**Methodology:** Fluorescence in situ hybridization (FISH) analysis.

**Performed:** Monday through Friday

**Reported:** 2-3 days

**Panels:** MDS Panel - 5q, 7q, CEP 8/20q, MLL (11q23)

Each probe may be also ordered individually.

**Specimen Requirements**

**Collect:** Non-diluted bone marrow aspirate in sodium heparin (green top) vacutainer, heparinized syringe or flask with sterile media (provided upon request).

**Specimen Volume:** Preferred: 2 mL for normal WBC (decreased WBC requires more, elevated WBC requires less); 0.5 mL (minimum).

**Storage/Transport:** Room temperature. Do not freeze or expose to extreme temperatures.

**Unacceptable Conditions:** Frozen specimens. Formalin-fixed specimens.

**Stability:** Ambient: 48 hours; Frozen: Unacceptable
Interpretive Data

**Characteristics:** When the percent of cells with an abnormality exceeds the normal reference range for any given probe, it is considered an abnormal clone. Absence of an abnormal clone does not rule out the possibility of a neoplastic disorder. The normal range varies with each observed signal pattern and is listed in the table below. A report detailing interpretation of results will be provided.

**Reference Range:**

<table>
<thead>
<tr>
<th>Probe Name</th>
<th>Normal Range (%)</th>
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<tbody>
<tr>
<td>5p15.2/5q31</td>
<td>0 – 4.5</td>
</tr>
<tr>
<td>7q11.23/7q31</td>
<td>0 – 4.0</td>
</tr>
<tr>
<td>8cen/20q12</td>
<td>0 – 6.0</td>
</tr>
<tr>
<td>11q23 (MLL)</td>
<td>0 – 5.5</td>
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</tbody>
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**Incidence:**
4/100,000 in the general population
22-45/100,000 in the older population (>70 years)
Median age at diagnosis is 65-70 years.

**Limitations:** The probes in this FISH panel detect only specific aberrations. Chromosomal alterations present outside the regions targeted by the probes will not be detected.

**References:**