FISH Analysis – Chronic Lymphocytic Leukemia (CLL)

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

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

**Ordering Recommendation:** To identify and track chromosome abnormalities in patients with chronic lymphocytic leukemia (CLL) and for follow-up of patients to evaluate response to therapy.

**Synonyms:** FISH, Hematopoietic malignancy, Chronic Lymphocytic Leukemia, CLL, Chronic Lymphoid Leukemia

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

**Performed:** Monday through Friday

**Reported:** 2-3 days

**Panels:** CLL Panel - ATM (11q22.3)/TP53 (17p13.1) (CLL 1), CEP 12, D13S319 (13q14.3), 13Q34 (CLL 2)

**Specimen Requirements**

**Collect:** Blood in sodium heparin vacutainer (Green top), heparinized syringe - Invert several times to mix. OR: Non-diluted bone marrow aspirate in sodium heparin vacutainer, heparinized syringe (invert to mix) or in a flask with sterile media (provided upon request).

**Specimen Volume:** Preferred: 7-10 mL blood OR 2 mL Bone marrow; 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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</thead>
<tbody>
<tr>
<td>11q22.3 (ATM)</td>
<td>0 – 5.5</td>
</tr>
<tr>
<td>12 cen</td>
<td>0 – 5.5</td>
</tr>
<tr>
<td>13q14 (D13S319)</td>
<td>0 – 5.5</td>
</tr>
<tr>
<td>13q34 (LAMP1)</td>
<td>0 – 5.5</td>
</tr>
<tr>
<td>17p13.1 (TP53)</td>
<td>0 – 5.5</td>
</tr>
</tbody>
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Incidence: 4.2/100,000, with median age of 79 years at diagnosis. 80% of patients are diagnosed ≥60 years; ~10% patients are <50 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: