HEMATOLOGIC DISORDERS—SEND & HOLD
COST-EFFECTIVE STRATEGIES FOR DIAGNOSIS AND MANAGEMENT OF HEMATOLOGIC DISORDERS
OPTIMIZED UTILIZATION THROUGH SEND AND HOLD

Diagnostic testing for hematologic disorders, especially neoplastic disorders of blood and bone marrow, continues to evolve into an extremely complex field. This increased level of intricacy, combined with changing guidelines and the difficulty of procuring additional samples for subsequent testing, commonly leads to over- and misutilization of testing.

To help optimize test utilization for hematologic disorders and ensure original specimens can be used for subsequent testing, Mayo Medical Laboratories offers a variety of send and hold options.

PROPORTION OF BONE MARROW CASES IN HEMATOLOGY PATIENTS

For many hematologic disorders, testing begins with morphology review and is typically followed by flow cytometry, chromosome, Fluorescence In Situ Hybridization (FISH), and molecular testing. However, by following the correct sequencing and observing brief pauses while early test results are returned, many of these cases can be diagnosed without requiring more expensive FISH and molecular tests.

CHROMOSOME HOLD, BONE MARROW

CASE STUDY
12 MONTHS

200
Bed hospital

188
Samples sent for “send and hold”

105
No chromosome analysis necessary

83
Chromosome analysis performed

$28,875
SAVINGS OVER 12 MONTHS
FLOW CYTOMETRY

HEMATOLOGIC DISORDERS, LEUKEMIA/LYMPHOMA; FLOW HOLD VARIES (HLLFH)
This test delays the start of leukemia/lymphoma immunophenotyping until the preliminary assessment is completed and immunophenotyping is deemed necessary.

Immunophenotyping hematopoietic specimens can help resolve many differential diagnostic problems posed by the clinical or morphologic features. However, morphologic assessment of blood smears, bone marrow smears, and tissue sections remains the cornerstone of lymphoma and leukemia diagnosis and classification. Depending on the results of these morphologic assessments, immunophenotyping may not be necessary.

MOLECULAR

HEMATOLOGIC DISORDERS, DNA EXTRACT AND HOLD (EXHD)
HEMATOLOGIC DISORDERS, DNA AND RNA EXTRACT AND HOLD (EXHR)
These tests hold and preserve nucleic acid from any specimen for which molecular analysis may be necessary at a future date and stores it at -80 degrees Celsius for one year from the time of extraction.

It is frequently useful to obtain nucleic acid from clinical samples containing a hematopoietic neoplasm at the time of diagnosis to ensure appropriate material is available for molecular analysis should subsequent testing be necessary. For example, when a diagnosis of acute myeloid leukemia is made, there is a delay before karyotype information is available. This karyotype information determines whether testing for molecular prognostic markers is necessary. However, after the delay, the diagnostic sample is typically no longer available, or the nucleic acid has degraded to such an extent that it is no longer adequate for testing. Thus, it is useful to obtain nucleic acid on such specimens promptly at diagnosis and retain it until it is known whether additional testing is necessary.
### SPECIMEN REQUIREMENTS AND RETENTION TIME

<table>
<thead>
<tr>
<th>TEST NAME</th>
<th>SPECIMEN HOLD TIME</th>
<th>TYPE / VOL / CONTAINER</th>
<th>RETENTION TIME</th>
<th>PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLOW HOLD</strong></td>
<td>Client can cancel before 12 pm CST—2 days after collection (Mon–Sat)*</td>
<td>BM: 1–5 mL ACD</td>
<td>BM/BLOOD: 14 days</td>
<td>No processing</td>
</tr>
<tr>
<td>(Mayo ID: HLLFH)</td>
<td></td>
<td>BLOOD: 10 mL ACD</td>
<td>FLUID/TISSUE: 7 days</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>FLUID: 20 mL in sterile container</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>TISSUE: biopsy or 5mm³ in media</td>
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<tr>
<td><strong>HEME CHROMOSOME HOLD</strong></td>
<td>Client can cancel testing before 4 pm CST—2 days after collection**</td>
<td>BM: 2–3 mL NaHep</td>
<td>ORIG. SAMPLE: 4 weeks</td>
<td>Culture initiated upon receipt</td>
</tr>
<tr>
<td>(Mayo ID: HOLDC)</td>
<td></td>
<td>BLOOD: 5–10 mL NaHep</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HEME FISH HOLD</strong></td>
<td>Client must call and order FISH test before 4pm CST—4 days</td>
<td>BM: 2–3 mL NaHep</td>
<td>ORIG. SAMPLE: 4 weeks</td>
<td>No processing</td>
</tr>
<tr>
<td>(Mayo ID: HOLDF)</td>
<td>after collection**</td>
<td>BLOOD: 5–10 mL NaHep</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DNA HOLD</strong></td>
<td>None—DNA extracted upon receipt!***</td>
<td>BM: 2 mL EDTA</td>
<td>ORIG. SAMPLE: 2 weeks</td>
<td>DNA extracted upon receipt</td>
</tr>
<tr>
<td>(Mayo ID: EXHD)</td>
<td></td>
<td>BLOOD: 4 mL EDTA</td>
<td>EXTRACTED DNA: 1 year</td>
<td></td>
</tr>
<tr>
<td><strong>DNA/RNA HOLD</strong></td>
<td>None—DNA/RNA extracted upon receipt!***</td>
<td>BM: 2 mL EDTA</td>
<td>ORIG. SAMPLE: 2 weeks</td>
<td>DNA/RNA extracted upon receipt</td>
</tr>
<tr>
<td>(Mayo ID: EXHR)</td>
<td></td>
<td>BLOOD: 4 mL EDTA</td>
<td>EXTRACTED DNA/RNA: 1 year</td>
<td></td>
</tr>
</tbody>
</table>

* Sunday communication deferred to Monday at Noon (CST)

** Weekend communication deferred to Monday

*** Samples extracted Monday–Saturday

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**FOR MORE INFORMATION ABOUT HEMATOLOGY TESTING, VISIT**

MayoMedicalLaboratories.com/hematology