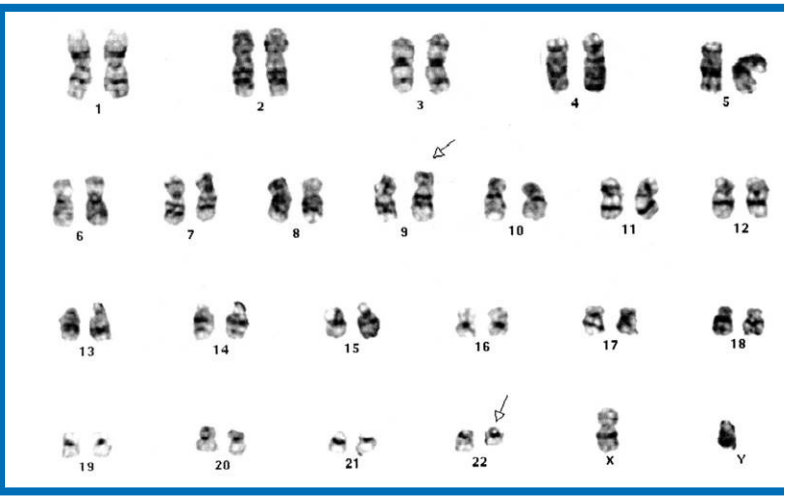
CSI Laboratories' Advanced Cytogenetic Testing Capabilities Help to Identify Rare Blood Cancer Genotypes



Accurate genetic characterization of high-grade B-cell lymphomas (HGBL) is important for patient management and treatment decisions, as these lymphomas are aggressive and associated with poor outcomes when treated with standard therapy. CSI Laboratories utilizes advanced cytogenetic testing capabilities for identification of high-grade B-cell lymphomas, to ensure that all cytogenetic and typical and variant FISH patterns are carefully evaluated.

The double/triple-hit lymphoma is a form of HGBL characterized by the presence of a MYC rearrangement together with a BCL2 and/or a BCL6 rearrangement. As such, it is necessary to completely exclude a MYC rearrangement.

It has been demonstrated that not all MYC probes are equal and different probe strategies are necessary to exclude a MYC translocation. Specifically, the MYC breakapart probe would give a false negative result in the case of an insertion of IGH into MYC, which will be detected with the dual-fusion IGH-MYC translocation probe. Alternatively, some variant translocations involving MYC and an immunoglobulin other than IGH, or even a non-immunoglobulin site, might be better detected/confirmed with the MYC breakapart probe. Similarly, a BCL2 translocation cannot be completely excluded by just performing the IGH-BCL2 (14;18) probe. The presence of one extra BCL2 signal needs to be further evaluated with the BCL2 breakapart probe, which will help discriminate between gain and an alternate translocation.

IT'S IMPORTANT TO PERFORM A HGBL FISH PANEL USING BOTH THE BREAKAPART AND DUAL-FUSION TRANSLOCATION PROBE TO IDENTIFY ALL POTENTIAL TRANSLOCATIONS.

"Some laboratories perform a HGBL FISH panel by using only one probe strategy, either the breakapart or the dual-fusion translocation probe, but not both," says CSI Laboratories Director of Genetics Aurelia Meloni-Ehrig, Ph.D, D.Sc. Utilizing advanced FISH testing capabilities, CSI employs both probe strategies as part of a triple-hit panel that identifies all potential translocations associated with HGBL.

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"It is absolutely necessary for the HGBL to include all of these probes, as we have seen cases that were negative with MYC breakapart probe but positive with the IGH-MYC translocation probe," Dr. Meloni explains. She adds that clinicians appreciate the depth of explanation and guidance they receive from the Medical Team at CSI regarding the rationale for performing the panel.

> **"OUR GOAL IS TO ASSIST CLINICIANS IN THE ACCURATE CHARACTERIZATION OF LYMPHOID NEOPLASMS BY OFFERING THEM THE MOST ADVANCED CYTOGENETICS/FISH TESTING CAPABILITIES AVAILABLE."**

New Panel for Diagnosis of Ph-like Acute Lymphoblastic Leukemia (ALL)

CSI Laboratories offers a new panel comprised of six probes for the diagnosis of Philadelphia chromosome (Ph)-like acute lymphoblastic leukemia (ALL), a high-risk subtype of B-cell precursor ALL. Ph-like ALL exhibits a diverse range of genetic alterations that activate kinase and cytokine receptor signaling and can therefore be targeted with tyrosine kinase inhibitor(TKI) therapy, which represents more targeted, precision medicine therapy with fewer side effects. Before the introduction of TKI therapy, Ph-like ALL was associated with very poor survival, which has been significantly improved with the early addition of TKIs to intensive chemotherapy regimens. Said Dr. Meloni, "The continuous expansion of molecular cytogenetic diagnostic capabilities at CSI enables us to assist clinicians in the diagnosis of diseases, such as Ph-like ALL, that have new opportunities for precision medicine therapies."

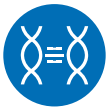
ABOUT CSI LABORATORIES

For over 20 years, CSI Laboratories has provided personalized cancer diagnostics to help pathologists and oncologists accurately diagnose and treat patients.


FLOW CYTOMETRY


FISH


HISTOLOGY


CYTOGENETICS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