

Date: August 18, 2021

DISCIPLINE: GENOMICS

## Triple Hit Lymphoma FISH Testing

Date effective: August 23, 2021

### Background Information:

Fluorescent in situ hybridization (FISH) testing for High-grade B-cell lymphoma is now available for patients meeting clinical criteria through the Genomics discipline. The test request algorithm uses morphology and immunohistochemistry diagnostic criteria to initiate test orders by hematopathologists on lymphoma service. This triple-hit test utilizes three FISH probe sets, specific for identifying breaks in the *MYC* and *BCL6* genes, and a rearrangement between the *IGH* and *BCL2* genes. The test is performed on formalin-fixed paraffin embedded tissue (FFPE) samples. This was previously a referred-out test to PhenoPath laboratories.

### Change in Test Procedure:

- The Genomics laboratory is now performing this service in-house. We will continue to use PhenoPath laboratories to ensure continuity of care as needed.
- Testing algorithm follows interrogation for *MYC* translocation on all cases as the first step. If the result is positive for *MYC* translocation, reflex testing for *BCL6* and *IGH/BCL2* will be conducted.

### References/Resources:

- <https://www.molecular.abbott/int/en/chromosome/3>
- <https://www.molecular.abbott/int/en/chromosome/8>
- <https://www.molecular.abbott/int/en/chromosome/14https://www.molecular.abbott/int/en/chromosome/18>

### Patient Impact:

- This is a critical test result. The results have direct impact on the choice of chemotherapy. Accurate evaluation of the specimens for translocations involving *MYC*, *BCL2* and *BCL6* is essential in a subset of high-grade B-cell lymphomas.

### System Improvements:

- Triple hit test on formalin-fixed paraffin embedded tissue was previously a send out test. The send out process adds to delays in obtaining critical diagnostic information, which is required for precise chemotherapy. Access to in-house testing capability adds value to patient care. The entire process is complex, which requires a coordinated and collaborative effort between lymphoma-Hematopathology, Genomics, diagnostic operations and clinical teams. Diagnostic safety checks and controls are incorporated into the testing strategy at every step to achieve quality, patient safety, and to meet turn-around-time expectations.

### For more information, please contact:

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