

Date: November 17, 2025

To: All BC Cancer

From: Dr. Stephen Yip, MD, PhD, FRCPC

Medical Director – Cancer Genetics and Genomics Laboratory

RE: Launch of Province-Wide Lymphoma LExA Expression Assay at CGL

This letter is to inform you that effective **Nov 17th, 2025**, the LExA gene expression profiling assay for diffuse large B-cell lymphomas and high grade B-cell lymphomas, performed at the Cancer Genetics and Genomics Laboratory (CGL) at BC Cancer, will be available to all pathologists across the province for ordering. The LExA assay is used to identify tumour cell-of-origin and the dark zone signature, both of which have prognostic and predictive utility. The LExA assay can also identify a signature that can discriminate primary mediastinal large B-cell lymphoma from diffuse large B-cell lymphoma NOS in the correct clinical setting.

LExA will replace FISH as the first-tier test for all diffuse large B-cell lymphomas and high grade B-cell lymphomas. FISH for *MYC* and *BCL2* will be performed as a reflex test on any case that is dark zone positive or indeterminant by LExA or any cases that fails to provide an interpretable result by LExA. *BCL6* will not be part of the reflex FISH performed but will remain a test option for follicular lymphoma and others as indicated. When Burkitt lymphoma is within the differential, *MYC*, *BCL2* and *BCL6* FISH will be run concurrently with LExA and now is a separate test order on our updated requisition.

Who qualifies for testing?

All samples from patients with a diffuse large B-cell lymphoma or a high grade B-cell lymphoma. LExA should also be ordered on all cases in which primary mediastinal large B-cell lymphoma is suspected.

What sample is required?

The following is required to complete LExA and reflex FISH as necessary. Despite FISH being a reflex test, all cases should continue to have FISH slides submitted to allow quick reflex FISH to ensure patient results. Any specimen received without the required components listed below will be returned without testing.

1. One H&E stained slide with the area for FISH scoring circled on the H&E slide

NOTE: Ensure the H&E stained slide is cut from a level in the block that closely matches the state of the block when submitted for testing

2. Three 4-5um unstained tissue sections on positively changed slides

3. Tissue block
4. Tumour content (see below) in the circled area for FISH **AND** for the whole section for LExA indicated in the respective fields in the Specimen section of the CGL Lymphoma requisition. **A minimum tumour content of 40% is required in the whole section to proceed with testing.**

Tumour content refers to the proportion (%) of tumour cell nuclei relative to non-tumour cell nuclei in a given area.

More detailed guidelines on FFPE sample requirements can be found at www.cancergeneticslab.ca/guidelines/specimens/.

How is the test ordered?

The LExA assay is ordered using the Lymphoma Requisition ([link](#)) and in Cerner using the High Grade B-Cell Lymphoma Prognostic Panel Tissue.

Where and how does the sample get sent?

Further information: <https://cancergeneticslab.ca/guidelines/specimens/#Shipping>

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How will the test be reported?

Results will be reported qualitatively for each of the three gene signatures detectable by the assay:

- Cell-of-origin signature - Germinal Centre B-cell-like (GCB) Activated B-cell-like (ABC), Unclassifiable
- Dark Zone signature – Positive, Negative, Unclassifiable
- Signature associated with primary mediastinal large B-cell lymphoma (PMBL) – PMBCL, DLBCL, Unclassifiable

If reflex *MYC* and *BCL2* FISH is performed, a separate report will be issued when results are available.

What is the expected turn-around-time (TAT) for results?

The anticipated TAT will not change from current standards with LExA having a 14 day TAT from receipt of the sample in CGL and FISH will be 14 days from the time of LExA reflex.

How will these results impact patient management?

Questions regarding how these results can contribute to the management of patients should be directed to the Lymphoma Tumour Group.

How can I access the clinical report results for my patient?

The clinical report will be:

- Uploaded electronically to CAIS, CST Cerner, and CareConnect
- For CareConnect information on how to view the report or to request access, [click here](#)
 - To discontinue receipt of the mailed paper copy, [complete this form](#)

Questions

Email: cancergeneticslab@bccancer.bc.ca

Website: cancergeneticslab.ca

References

1. Scott *et al.* Determining cell-of-origin subtypes of diffuse large B-cell lymphoma using gene expression in formalin-fixed paraffin-embedded tissue *Blood* (2014) PMID:24398326
2. Mottok *et al.* Molecular classification of primary mediastinal large B-cell lymphoma using routinely available tissue specimens *Blood* (2018) PMID:30257882
3. Ennishi *et al.* Double-Hit Gene Expression Signature Defines a Distinct Subgroup of Germinal Center B-Cell-Like Diffuse Large B-Cell Lymphoma *J. Clin. Oncol.* (2019) PMID:30523716
4. Duns *et al.* Characterization of DLBCL with a PMBL gene expression signature *Blood* (2021) PMID:33684939
5. Alduaij *et al.* Molecular determinants of clinical outcomes in a real-world diffuse large B-cell lymphoma population *Blood* (2023) PMID:36302166



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