

<b>DATE:</b>	6 February 2023
<b>TO:</b>	All Pathologists and Hematologists/Oncologists in South Sector Alberta
<b>FROM:</b>	Molecular Pathology Program, Alberta Precision Laboratories
<b>RE:</b>	<b>Testing in Edmonton for BCR::ABL1 in new diagnosis ALL, and routine PML::RARA</b>

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### Key Message

- As of February 1, 2023 all BCR::ABL1 RT-PCR requests received in the DSC Molecular Pathology Lab for new diagnoses of acute lymphoblastic leukemia (ALL) will be sent to Edmonton for rapid qualitative BCR::ABL1 fusion detection. All routine (non-rush) PML::RARA RT-PCR testing will also be sent to Edmonton for testing. This change will maintain high quality results with clinically appropriate turnaround times while reducing logistical challenges and workload burdens on the molecular pathology lab technical staff. Initial and monitor BCR::ABL testing for CML will not be changed.

### Background

- Rapid BCR::ABL1 RT-PCR is needed for new diagnoses of ALL to guide therapy. Testing in Calgary has previously been performed by nested RT-PCR. This assay achieves a very high analytic sensitivity (6.0 log reduction) but this level of sensitivity is not needed for diagnostic testing, and the workflow is long and complex. Due to these factors and staff shortages in the Calgary Molecular Hematology lab, the ability to consistently achieve rapid testing TAT on this assay cannot be guaranteed at this time.
- Edmonton performs rapid testing for BCR::ABL1 via a qualitative assay that covers nine BCR::ABL1 fusion transcript isoforms (b2a2, b3a2, e1a2, b2a3, b3a3, e6a2, e8a2, e1a3, e19a2). The limit of detection is 3.5 log reduction, sufficient for detection in new diagnostic cases. The assay is run the majority of weekdays, enabling rapid turnaround.
- PML::RARA RT-PCR is currently performed in Calgary for follow-up testing on a non-urgent basis. The assay is low volume, and an equivalent assay is also performed in Edmonton. Given staff shortages in the Calgary Molecular Hematology lab, testing in Edmonton will assist in alleviating workload while preserving TATs.

### How this will impact you

- Rapid BCR::ABL1 testing for Calgary patients with a new diagnosis of ALL will be performed and reported in Edmonton for the foreseeable future.
- Routine PML::RARA RT-PCR follow-up testing for Calgary patients will be performed and reported in Edmonton for the foreseeable future.

### Action Required

- Calgary Pathologists:** This change does not impact existing test ordering workflows. No change in practice is required due to this change.
- Calgary Oncologists and Hematologists:** There is no change in specimen acquisition or ordering. Results from Edmonton for rapid BCR::ABL and routine PML::RARA will be listed in Netcare / Connect Care.

**Effective** February 1, 2023



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**Questions/Concerns**

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**Approved by**

- Adrian Box, Medical/Scientific Director, Molecular Pathology Program
- Mark Douesnard, Operations Director, Molecular Pathology Program