

DATE:	11 May 2026
TO:	All Hematopathologists and Hematologists/Oncologists
FROM:	Molecular Pathology Program, Alberta Precision Laboratories
RE:	Combined <i>FLT3/NPM1</i> Testing for New Diagnosis Acute Myeloid Leukemia

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Key Message

- Starting May 19, 2026, all samples received for initial *FLT3* or *NPM1* testing in Alberta Precision Laboratories Molecular Pathology, will have combined *FLT3* and *NPM1* testing performed and reported. This new assay will include *FLT3* internal tandem duplication (ITD) with allelic ratio, *FLT3* D835 mutations (tyrosine kinase domain [TKD]), and *NPM1* hotspot insertion mutations.

Background

- FLT3* internal tandem duplications (ITDs) and allelic ratio, *FLT3* D835 mutations (tyrosine kinase domain [TKD] mutations), and *NPM1* insertion mutations are key diagnostic, prognostic and predictive markers in acute myeloid leukemia (AML). Expedited testing is clinically required to make treatment decisions, in advance of full next generation sequencing (NGS) profiling.
- The current state is to perform expedited *FLT3* ITD and D835 qualitative testing for all new diagnoses of AML. *FLT3* ITD positive samples are sent to Edmonton for allelic ratio testing. *NPM1* testing is also ordered separately and report in a similar manner
- A laboratory developed test has been designed and validated in the FMC Molecular Pathology laboratory to cover *FLT3* ITD with allelic ratio, *FLT3* D835, and *NPM1* hotspot insertion mutations in a single assay.

How this will impact you

- No change in ordering practice is necessary. All “FLT3 Mutation Analysis” orders in Molecular Pathology will now automatically trigger *FLT3* ITD with allelic ratio, *FLT3* D835, and *NPM1* mutation testing. The testing will be performed in a single assay with findings issued in one report with the same target turnaround time (TAT) as current testing (5 calendar days).
- This test is intended for testing of newly diagnosed AML cases and IS NOT SUITABLE for minimal residual disease (MRD) monitoring for either *FLT3* or *NPM1*.** The assay requires at least 10% neoplastic cells to avoid false negative results.

Action Required

- Pathologists, Oncologists and Hematologists:** Be aware when ordering and reviewing *FLT3* results that *FLT3* ITD with allelic ratio, *FLT3* D835, and *NPM1* insertion testing will be performed and reported as one.

Effective **May 19, 2026**

Questions/Concerns

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Approved by

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- Christine Frantz, Operations Director, Molecular Pathology Program
- Dr. Carolyn O'Hara, Chief Medical Laboratory Officer (Interim), Alberta Precision Laboratories