

DATE:	27 April 2026
TO:	All Hematologists and Oncologists in Alberta
FROM:	Molecular Pathology Program, Alberta Precision Laboratories
RE:	Chimerism Updated Analysis Workflow

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Key Message

- As of May 4, 2026, for all samples received for chimerism analysis in Alberta Precision Laboratories Molecular Pathology, an updated analysis workflow will be utilized. This may result in small differences in % donor for some patients, particularly those with fewer informative alleles.

Background

- Chimerism analysis in Molecular Pathology (centralized at the Arthur Child in Calgary) uses quantitative assessment of multiple donor/recipient short tandem repeat (STR) loci to calculate % donor.
- Selection of informative loci is technically complex due to multiple possible donor/recipient allele combinations, resulting in some variability in marker selection between specimens.
- A standardized workflow for selecting informative loci has been developed based on published evidence and guidelines and verified against prior results and American Society for Histocompatibility and Immunogenetics (ASHI) proficiency test samples.
- This change reduces inter-operator variability and improves consistency and efficiency of analysis.
- In validation, ~95% of results were within +/-5% donor compared to previous analysis. 3.5% of results were >5% lower (max 9.7%) and 1.2% of results were >5% higher (max 5.7%). The largest differences were seen in cases with few informative alleles (i.e. more closely related donor/recipient pairs).

How this will impact you

- At implementation, small changes in % donor may occur due to the updated method rather than a true change in disease status.

Action Required

- Hematologists and Oncologists:** Interpret changes in chimerism % donor with caution at the first post-implementation test (after May 4, 2026), particularly in patients with fewer informative alleles.

Effective **May 4, 2026**

Questions/Concerns

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