

DATE:	28 September 2026
TO:	All Zones: All Healthcare Professionals and Providers
FROM:	Clinical Biochemistry, Alberta Precision Laboratories (APL)
RE:	Provincial Standardization of Pediatric Reference Intervals for IgG Subclasses

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Message

- Effective **October 1, 2026**, the University of Alberta Hospital (UAH) site will resume offering IgG Subclasses and IgG4 testing.
- Pediatric age specific reference intervals will be implemented provincially on the Optilite instrument.

Background

- IgG subclasses is a second order test for the evaluation of patients suspected of having a rare primary immunodeficiency. IgG4 supports the diagnosis of IgG4 related disease.
- Due to vendor discontinuation of IgG subclass reagents for the nephelometer instrument, the UAH site assay for serum and plasma IgG subclasses will switch to a turbidimetric immunoassay method on the Optilite analyzer. This is the same method currently used at the Calgary Immunochemistry Laboratory [Diagnostic and Scientific Centre (DSC)].
- This platform change supports provincial standardization.

How this will impact you

- Fasting samples are preferred.
- For samples sent to DSC:** Lithium heparin PST is now an acceptable alternative collection container.
- The pediatric reference intervals for IgG subclasses will change (Table 1-4).

Action Required

- Be aware that IgG subclasses testing at UAH will be performed using the Optilite turbidimetric immunoassay method instead of the nephelometer. Known patients may require re-baselining.
- Testing platform at the DSC in Calgary remains unchanged.
- Reference intervals for IgG Subclasses and IgG4 are in Connect Care and the APL test directory.
- Refer to the Optilite reference interval in the report for appropriate result interpretation.

Questions/Concerns

- Dr. Kareena Schnabl, Clinical Biochemist, Edmonton, Kareena.Schnabl@aplabs.ca
- Dr. Qian Wang, Clinical Biochemist, Calgary, Qian.Wang@aplabs.ca

Approved by

- Dr. Allison Venner, Clinical Biochemistry Section Chief, South Sector
- Dr. Carolyn O'Hara, Chief Medical Laboratory Officer, APL

Reference

- Grunewald O, Lopez B et al. Immunoglobulin G (IgG) and IgG subclass reference intervals in children using Optilite reagents. Clin Chem Lab Med. 2018 Jul 26;56(8):1319-1327. doi: 10.1515/cclm-2018-0001. PMID: 29630506.



Table 1 New Pediatric Age Specific Reference Intervals for IgG1

Age	Current RI Optilite	New RI Optilite
0 up to 2 yrs	3.82-9.29 g/L	1.33-6.33 g/L
2 yrs up to 4 yrs		2.11-8.03 g/L
4 yrs up to 6 yrs		2.49-8.29 g/L
6 yrs up to 9 yrs		2.67-10.18 g/L
9 yrs up to 12 yrs		2.99-9.49 g/L
12 yrs up to 18 yrs		3.21-8.60 g/L

Note: The adult IgG1 reference interval (3.82-9.29 g/L) remains unchanged.

Table 2 New Pediatric Age Specific Reference Intervals for IgG2

Age	Current RI Optilite	New RI Optilite
0 up to 2 yrs	2.42-7.00 g/L	0.30-1.76 g/L
2 yrs up to 4 yrs		0.46-2.42 g/L
4 yrs up to 6 yrs		0.72-3.02 g/L
6 yrs up to 9 yrs		0.79-3.28 g/L
9 yrs up to 12 yrs		0.88-4.07 g/L
12 yrs up to 18 yrs		1.39-5.31 g/L

Note: The adult IgG2 reference interval (2.42-7.00 g/L) remains unchanged.

Table 3 New Pediatric Age Specific Reference Intervals for IgG3

Age	Current RI Optilite	New RI Optilite
0 up to 2 yrs	0.22-1.76 g/L	0.11-0.88 g/L
2 yrs up to 6 yrs		0.14-1.08 g/L
6 yrs up to 12 yrs		0.19-1.33 g/L
12 yrs up to 18 yrs		0.21-1.59 g/L

Note: The adult IgG3 reference interval (0.22-1.76 g/L) remains unchanged.

Table 4 New Pediatric Age Specific Reference Intervals for IgG4

Age	Current RI Optilite	New RI Optilite
0 up to 2 yrs	0.04-0.86 g/L	0.01-0.56 g/L
2 yrs up to 4 yrs		0.01-0.87 g/L
4 yrs up to 6 yrs		0.02-0.96 g/L
6 yrs up to 9 yrs		0.03-1.05 g/L
9 yrs up to 18 yrs		0.04-1.22 g/L

Note: The adult IgG4 reference interval (0.04-0.86 g/L) remains unchanged.