



## Laboratory Technical Bulletin

### NEW REFERENCE INTERVALS FOR TOTAL IMMUNOGLOBULIN E (TOTAL IgE)

On December 8 2015, analysis of total IgE at St. Paul's Hospital (SPH) will transition from the Siemens ADVIA Centaur® platform to the Roche Cobas® e601. The reference ranges will also be updated at this time to reflect more recent literature findings:

AGE	REFERENCE RANGE (ug/L)	
	Old	New
0 to <6 mo	<50	≤31
6 mo to <1 yr	<50	≤82
1 yr to <2 yr	<75	≤233
2 yr to <3 yr	<95	≤233
3 yr to <4 yr	<135	≤478
4 yr to <5 yr	<135	≤737
5 yr to <6 yr	<155	≤737
6 yr to <7 yr	<185	≤737
7 yr to <9 yr	<185	≤967
9 yr to <13 yr	<250	≤1670
13 yr to <16 yr	<250	≤1510
16 yr to <18 yr	<250	≤1289
18 yr to <19 yr	<250	≤514
≥19 yr	<405 (M), <355 (F)	≤514

The new intervals are derived from a study published by the ARUP laboratory in 2014 [1], using sera collected from 1376 healthy children (702 M, 674 F) ranging from 6 months to 17 years, and 128 healthy adults (64 M,

64 F) ranging from 19 to 69 years. Total IgE was measured on the ImmunoCAP 1000 instrument. As both the ImmunoCAP and the Cobas e601 IgE assays are standardized against the WHO 2<sup>nd</sup> International Reference Preparation Human Serum Immunoglobulin E Reference Standard 75/502, the reported intervals are expected to be applicable to our analyzer. Further, good correlation has been described between the 2 methods: Cobas e601 = 1.14\*ImmunoCAP – 0.94, R<sup>2</sup> = 0.9913 [2].

There were several reasons why this study and its reference ranges were chosen for adoption at SPH: the study had a large sample size, was performed in a North American population, and followed approved guidelines for establishing reference intervals. Both ARUP and Mayo laboratories are at present reporting reference ranges derived from this study.

Should you have any questions, please do not hesitate to contact us.

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#### REFERENCES

- [1] Martins TB, Bandhauer ME, Bunker AM. New childhood and adult reference intervals for total IgE. *J Allergy Clin Immunol* 2014;133(2):589-91.
- [2] Yoon S, Kim S. Comparison of serum total IgE tests performed by four different assay systems. 2nd European Joint Congress of EFLM and UEMS. Available at: <http://www.biochemia-medica.com/system/files/Abstracts-2nd%20EFLM-UEMS%20Congress-Posters-P11.pdf>