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Laboratory Bulletin

DATE:	7 July 2025
TO:	All Zones – Physicians, Nurses, and Managers
FROM:	Clinical Biochemistry, Alberta Precision Labs (APL)
RE:	**Implementation of Acetylcholine Receptor Antibody Blood Test by Cell-Based Assay (CBA)**

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Key Message

- Effective **July 15, 2025**, the University of Alberta Hospital (UAH) laboratory in Edmonton will perform serum *Acetylcholine Receptor Antibody (AChR)* testing by fixed cell-based assay (F-CBA) for all patients with clinical suspicion for Myasthenia Gravis.
- All *AChR* negative patients will additionally have muscle specific kinase (*Anti-MUSK*) antibody tested.
- All *AChR* weak positive patients will automatically be referred out to BC for Cluster AChR ab live CBA.

Background

- In November 2023, all *Acetylcholine Receptor Antibody* testing was referred out to BC Neuroimmunology due to equipment failure.
- A strategic decision was made to transition radioimmunoassay tests to safer alternative methods.
- The UAH Special Chemistry laboratory has validated a new *AChR* indirect immunofluorescence cell-based assay (CBA) that provides enhanced sensitivity and specificity for AChR detection.

How this will impact you

- For Connect Care users, order *Acetylcholine Receptor Antibody LAB 4593*.
- For non-Connect Care orders, blood samples must be received with a completed Alberta Precision Labs *General Laboratory Requisition*. Write test name under Additional Tests. Under Clinical Information section, indicate if patient is on or has recently had IVIG treatment.
- Serum samples for AChR and Anti-MUSK will be sent to UAH.
- The *AChR* method will change from a quantitative radioimmunoassay (RIA) to a qualitative fixed CBA.
- Refer to the new reference interval and reporting comments below:

Old Method RIA (nmol/L)		**New Method Cell-Based Assay (CBA)**	
Absent	<0.2	Negative	Sample referred out for anti-muscle specific kinase (Anti-MUSK) antibody test.
Borderline	0.2 – 2.0	Weak Positive or Indeterminate	Sample referred out for indirect immunofluorescence live cell-based assay (L-CBA)
Positive	>2.0	Positive	A positive result, in the appropriate clinical and electrophysiological context, confirms diagnosis of autoimmune AChR Myasthenia Gravis.

- *Anti-MUSK* and *Cluster AChR Ab* will continue to be referred out to BC Neuroimmunology.
- Expected turnaround time for AChR is 1-2 weeks and referred out tests within 4 weeks.
- *AChR* reports will be available in Connect Care and Netcare. Ordering providers not on Connect Care will receive a mailed report.

Action Required

- Refer to APL test directory to become familiar with AChR testing changes.

Questions/Concerns

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Approved by

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