MAYO CLINIC LABORATORIES

**NEW TEST**

Notification Date: March 25, 2021
Effective Date: May 11, 2021

# Myasthenia Gravis/Lambert-Eaton Myasthenic Syndrome Evaluation, Serum

**Test ID:** MGLE

## Useful for:

Confirming the autoimmune basis of a defect in neuromuscular transmission (eg, myasthenia gravis [MG], Lambert-Eaton myasthenic syndrome [LEMS])

Distinguishing LEMS from autoimmune forms of MG

Providing a quantitative autoantibody baseline for future comparisons in monitoring a patient's clinical course and response to immunomodulatory treatment

## Profile Information:

| Test ID | Reporting Name | Available Separately | Always Performed |
|---|---|---|---|
| MGLEI | MG Lambert-Eaton Interpretation, S | No | Yes |
| ARBI | ACh Receptor (Muscle) Binding Ab | Yes | Yes |
| CCPQ | P/Q-Type Calcium Channel Ab | No | Yes |

## Reflex Tests:

| Test ID | Reporting Name | Available Separately | Always Performed |
|---|---|---|---|
| ACMFS | AChR Modulating Flow Cytometry, S | No | No |
| MUSK | MuSK Autoantibody, S | Yes | No |

## Test Algorithm:

If acetylcholine receptor (AChR)-binding antibodies are greater than 0.02 nmol/L, then AChR muscle modulating antibody will be performed at an additional charge.

If AChR-binding antibodies are 0.02 nmol/L or less, then muscle-specific kinase (MuSK) autoantibody will be performed at an additional charge.

If unable to report AChR binding antibody due to interfering substances, then AChR muscle modulating antibody will be performed at an additional charge.

If unable to report AChR binding antibody due to interfering substances and AChR muscle modulating antibody is negative, then MuSK autoantibody will be performed at an additional charge.

## Methods:

ARBI, CCPQ, MUSK: Radioimmunoassay (RIA)
ACMFS: Flow Cytometry

## Reference Values:

| Test ID | Reporting name | Methodology | Reference value |
|---|---|---|---|
| MGLEI | MG Lambert-Eaton Interpretation, S | Interpretation | NA |
| ARBI | ACh Receptor (Muscle) Binding Ab | Radioimmunoassay (RIA) | < or =0.02 nmol/L |
| CCPQ | P/Q-Type Calcium Channel Ab | RIA | < or =0.02 nmol/L |

## Reflex Information:

| Test ID | Reporting name | Methodology | Reference value |
|---|---|---|---|
| ACMFS | AChR Modulating Flow Cytometry, S | Flow cytometry | Negative |
| MUSK | MuSK Autoantibody, S | RIA | < or =0.02 nmol/L |

## Specimen Requirements:

**Patient Preparation:**

1. Patient should have no general anesthetic or muscle-relaxant drugs in the preceding 24 hours.
2. For optimal antibody detection, specimen collection is recommended prior to initiation of immunosuppressant medication.
3. This test should not be requested in patients who have recently received radioisotopes, therapeutically or diagnostically, because of potential assay interference. The specific waiting period before specimen collection will depend on the isotope administered, the dose given, and the clearance rate in the individual patient. Specimens will be screened for radioactivity prior to analysis. Radioactive specimens received in the laboratory will be held 1 week and assayed if sufficiently decayed or canceled if radioactivity remains.

**Container/Tube:**

**Preferred:** Red top

**Acceptable:** Serum gel

**Specimen Volume:** 3 mL

**Minimum Volume:** 2 mL

## Specimen Stability Information:

| Specimen Type | Temperature | Time |
|---|---|---|
| Serum | Refrigerated (preferred) | 28 days |
| | Ambient | 72 hours |
| | Frozen | 28 days |

## Cautions:

Specimens should be collected prior to administration of immunosuppressant therapy as this may reduce the diagnostic sensitivity of the assay; the neurological diagnosis is further confounded if steroid myopathy develops.

These results should only be interpreted in the appropriate clinical and electrophysiological context and are not diagnostic in isolation.

Positive muscle acetylcholine receptor (AChR) may occur in autoimmune liver disorders and in patients with graft-versus-host disease and recipients of D-penicillamine.

Weakly positive results may occur with hypergammaglobulinemia and should be interpreted with caution in the appropriate clinical context.

AChR modulating antibodies will only be performed if AChR binding antibodies are present or if there is an interfering substance present which precludes testing for AChR binding antibodies.

Seropositive rates and quantitative results differ across laboratories and patient results tested at different laboratories should not be treated equivalently.

The presence of alpha-bungarotoxin antibodies may interfere with the AChR muscle binding antibody assay and therefore if detected, AChR binding results will not be reported.

## CPT Code:

83519 x2
86255 (if appropriate)
83519 (if appropriate)

## Day(s) Setup:

ARBI, CCPQ:
Monday through Sunday

ACMFS:
Monday, Wednesday, Saturday

MUSK:
Monday through Friday

## Analytic Time:

3 days

## Questions

Contact Amy Ennis or Steven Monson, Laboratory Technologist Resource Coordinator at 800-533-1710.