

## Myasthenia Gravis Evaluation with Muscle-Specific Kinase (MuSK) Reflex, Serum

**Test ID:** MGMR

### Useful for:

Diagnosis for autoimmune myasthenia gravis (MG) in adults and children

Distinguishing autoimmune from congenital MG in adults and children or other acquired forms of neuromuscular junction transmission disorders

Establishing a quantitative baseline value that allows comparison with future levels if weakness is worsening

### Profile Information:

Test ID	Reporting Name	Available Separately	Always Performed
MGMRI	MG with MuSK Interpretation, S	No	Yes
ARBI	ACh Receptor (Muscle) Binding Ab	Yes	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, MUSK: Radioimmunoassay (RIA)

**Reference Values:**

Test ID	Reporting Name	Methodology	Reference Value
MGMRI	MG with MuSK Interpretation, S	Interpretation	NA
ARBI	ACh Receptor (Muscle) Binding Ab	Radioimmunoassay (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:**

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.

**Patient Preparation:****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:**

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

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.

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

83519 (if appropriate)

86255 (if appropriate)

**Day(s) Setup:**

ARBI:

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.