Overview

Useful For
As a serological aid in the diagnosis of thymoma, especially in patients with onset of myasthenia gravis (MG) younger than 45 years.

As a screening test for MG in older patients, especially when tests for muscle acetylcholine receptor (AChR) antibodies are negative.

Serial measurements are useful in monitoring the efficacy of immunosuppressant treatment in patients with MG.

Serial measurements are useful after treatment of thymoma.

Serial measurements in recipients of D-penicillamine or bone marrow allografts may be useful in monitoring autoimmune complications and graft-versus-host disease, respectively.

Testing Algorithm
See Paraneoplastic Evaluation Algorithm in Special Instructions.

Special Instructions
- Paraneoplastic Evaluation Algorithm

Method Name
Enzyme Linked Immunosorbent Assay (ELISA)

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required

Container/Tube:
- Preferred: Red top
- Acceptable: Serum gel

Specimen Volume: 1.5 mL

Specimen Minimum Volume
1 mL

Reject Due To
<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
</tbody>
</table>
Test Definition: STR  
Striational (Striated Muscle) Ab, S

<table>
<thead>
<tr>
<th>Gross icterus</th>
<th>Reject</th>
</tr>
</thead>
</table>

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Clinical and Interpretive

Clinical Information

Autoantibodies directed against the contractile elements of striated muscle are found in 30% of adult patients with myasthenia gravis and in 80% of those with thymoma. These antibodies may also be detected in patients with: Lambert-Eaton myasthenic syndrome, small-cell lung carcinoma, breast carcinoma, patients treated with D-penicillamine, bone marrow transplant recipients having graft-versus-host disease, and autoimmune liver disorders.

While this test is used as a serological aid in the diagnosis of thymoma, especially in patients with onset of myasthenia gravis (MG) younger than 45 years, it is more predictive of thymoma when accompanied by a muscle acetylcholine receptor (AChR) modulating antibody value of 90% or greater AChR loss and is most predictive of thymoma when accompanied by collapsin response-mediator protein-5-IgG (CRMP-5-IgG). Serial measurements are useful after treatment of thymoma. Measurements of muscle AChR binding, muscle AChR modulating antibody, and CRMP-5-IgG (if initially positive) are also recommended.

Reference Values

<1:120

Interpretation

Striational antibodies occur in approximately:

- 14% of patients with thymoma without clinical evidence of myasthenia gravis (MG)
- 30% of patients with acquired (autoimmune) MG
- 74% of patients with thymoma in association with MG
- 25% of rheumatoid arthritis (RA) patients treated with D-penicillamine, 4% in untreated RA patients
- 5% of patients with Lambert-Eaton myasthenic syndrome (LES) and/or small-cell lung carcinoma (SCLC) (MGL1 / Myasthenia Gravis [MG]/Lambert-Eaton Syndrome [LES] Evaluation and PAVAL / Paraneoplastic Autoantibody Evaluation, Serum)
- In some bone marrow recipients with graft-versus-host disease

The incidence in healthy subjects is under 1%.

A rising titer after removal of thymoma may be indicative of tumor recurrence.
Cautions
A negative result does not exclude the presence of thymoma (20% are negative).

Clinical Reference


Performance

Method Description
Protein antigens extracted from adult rat skeletal muscle in 600 mM KCl are applied to wells of an enzyme-linked immunosorbent assay plate. Serially diluted patient's serum is added. After washing, alkaline phosphatase conjugated antibodies to human IgG, IgM, and IgA are added, washing is repeated, and then the enzyme substrate is added. Results are expressed as antibody titer (i.e., the greatest dilution at which the optical density of the reaction product is >1.50 x the mean value of 4 normal control sera). (Cikes N, Momoi MY, Williams CL, et al: Striational autoantibodies: quantitative detection by enzyme immunoassay in myasthenia gravis, thymoma, and recipients of D-penicillamine or allogeneic bone marrow. Mayo Clin Proc 1988;63:474-481)

PDF Report
No

Day(s) and Time(s) Test Performed
Monday through Friday; 4 a.m. and 3 p.m.

Saturday; 6 a.m.

Analytic Time
3 days

Maximum Laboratory Time
5 days

Specimen Retention Time
28 days

Performing Laboratory Location
Rochester

Fees and Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
Test Definition: STR
Striational (Striated Muscle) Ab, S

- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83520

LOINC® Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>STR</td>
<td>Striational (Striated Muscle) Ab, S</td>
<td>8097-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8746</td>
<td>Striational (Striated Muscle) Ab, S</td>
<td>8097-8</td>
</tr>
</tbody>
</table>