Test Definition: OLIG
Oligoclonal Banding

Overview

Useful For
Diagnosis of multiple sclerosis; especially useful in patients with equivocal clinical presentation and radiological findings

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tbody>
<tr>
<td>OLIGS</td>
<td>Serum Bands</td>
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<tr>
<td>OLIGC</td>
<td>CSF Bands</td>
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</table>

Method Name
Isoelectric Focusing (IEF) with IgG Immunoblot Detection

NY State Available
Yes

Specimen

Specimen Type
CSF
Serum

Specimen Required
Both serum and spinal fluid are required. Spinal fluid must be obtained within 1 week of serum draw.

Specimen Type: Serum

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

Specimen Volume: 0.5 mL

Collection Instructions: Label specimen as serum.

Specimen Type: Spinal fluid

Container/Tube: Sterile vial

Specimen Volume: 0.5 mL

Collection Instructions: Label specimen as spinal fluid.
**Specimen Minimum Volume**
Serum, Spinal Fluid: 0.4 mL

**Reject Due To**

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<th>Specimen Type</th>
<th>Mild OK; Gross OK</th>
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<tbody>
<tr>
<td>Hemolysis</td>
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<td>Lipemia</td>
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<td>Icterus</td>
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**Specimen Stability Information**

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<tr>
<th>Specimen Type</th>
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<tr>
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<td>Ambient</td>
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<tr>
<td></td>
<td>Frozen</td>
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<tr>
<td>Serum</td>
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<tr>
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<tr>
<td></td>
<td>Frozen</td>
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**Clinical and Interpretive**

**Clinical Information**
The diagnosis of multiple sclerosis (MS) is dependent on clinical, radiological, and laboratory findings. The detection of increased intrathecal immunoglobulin (Ig) synthesis is the basis for current diagnostic laboratory tests for MS. These tests include the cerebrospinal fluid (CSF) IgG index and CSF oligoclonal band (OCB) detection. Abnormal CSF IgG indexes and OCB patterns have been reported in 70% to 80% of MS patients. At least 1 of these tests has been reported to be positive in 90% of MS patients when both tests are performed.

Newer methodologies for OCB detection have been reported to be more sensitive, with sensitivities of 90% to 95% in CSF from MS patients.

Increased intrathecal Ig synthesis may occur in other inflammatory CSF diseases and, therefore, this assay is not specific for MS (specificity = 95%).

**Reference Values**
CSF Olig Bands Interpretation: <4 bands

**Interpretation**
A finding of 4 or more cerebrospinal fluid (CSF)-specific bands (ie, bands that are present in CSF but are absent in serum) is consistent with multiple sclerosis.

The presence of oligoclonal band is unrelated to disease activity.

**Cautions**
**Test Definition: OLIG**

Oligoclonal Banding

These tests are not specific for multiple sclerosis.

**Supportive Data**

In early 2003 we compared the isoelectric focusing (IEF) assay to our previous high-resolution agarose assay as well as the cerebrospinal fluid (CSF) IgG index. The IEF assay requires a smaller volume of CSF and is easier to interpret than the agarose assay. Concordant normal specimens usually had zero bands by IEF but 1 band by agarose. The concordant positive specimens had an average of 11 bands by IEF and 2 bands on agarose.

Among 19 cases of definite multiple sclerosis (MS), the IEF oligoclonal band (OCB) assay had a sensitivity of 95%, the agarose assay had a sensitivity of 63%, and the CSF index had a sensitivity of 74%. Among 57 consecutive non-MS cases, the IEF OCB assay had a specificity of 95% and agarose and CSF index assays had a specificity of 97%. These data demonstrated a 32% increase in sensitivity and a 2% decrease in specificity for IEF.

**Clinical Reference**


2. Fortini AS, Sanders EL, Weinshenker BG, Katzmann JA: Cerebrospinal fluid oligoclonal bands in the diagnosis of multiple sclerosis, isoelectric focusing with the IgG immunoblotting compared with high resolution agarose gel electrophoresis and cerebrospinal fluid IgG index. Am J Clin Pathol 2003;120:672-675

**Performance**

**Method Description**

The oligoclonal band (OCB) assay requires paired cerebrospinal fluid (CSF) and serum samples. Unconcentrated CSF and diluted serum are electrophoresed by isoelectric focusing. The separated immunoglobulin (Ig) are visualized by an IgG immunoblot, and OCBs that are present in the CSF and not in the serum are reported. The assay uses reagents from Helena Laboratories. (Keir G, Luxton RW, Thompson EJ: Isolelectric focusing of cerebrospinal fluid immunoglobulins G: an annotated update. Ann Clin Biochem 1990;27:436-443)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Saturday; 7 a.m.-12 p.m.

**Analytic Time**

2 days

**Maximum Laboratory Time**

3 days

**Specimen Retention Time**

14 days

**Performing Laboratory Location**

Rochester

**Fees and Codes**
Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- 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 has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83916 x 2

LOINC® Information

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