Overview

Useful For
Aiding in the diagnosis of blastomycosis

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBL</td>
<td>Blastomyces Ab, Immunodiffusion, S</td>
<td>Yes, (SBL)</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

If result is equivocal or positive, SBL / Blastomyces Antibody by Immunodiffusion, Serum will be ordered at an additional charge.

See Meningitis/Encephalitis Panel Algorithm in Special Instructions.

Special Instructions
- Meningitis/Encephalitis Panel Algorithm

Method Name
Enzyme Immunoassay (EIA)

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required

Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Specimen Volume: 1 mL

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Specimen Minimum Volume
0.8 mL

Reject Due To
**Test Definition: BLAST**

Blastomyces Ab, EIA, S

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<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat inactivated specimen</td>
</tr>
</tbody>
</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>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Clinical and Interpretive**

**Clinical Information**

*Blastomyces dermatitidis*, an adimorphic fungus, is endemic throughout the midwestern, south-central, and southeastern United States, particularly in regions around the Ohio and Mississippi river valley, the Great Lakes and the Saint Lawrence River. It is also found in regions of Canada. *Blastomyces* is an environmental fungus, preferring moist soil and decomposing organic matter, which produces fungal spores that are released and inhaled by animals or humans. At body temperature, the spores mature into yeast which can stay in the lungs or disseminated through the bloodstream to other parts of the body. Recently, through phylogenetic analysis, *B. dermatitidis* has been separated into two distinct species-*B. dermatitidis* and *Blastomyces gilchristii*, both able to cause blastomycosis in infected patients. Interestingly, *B. dermatitidis* infections are associated more frequently with dissemination, particularly in elderly patients, smokers and immunocompromised hosts, while *B. gilchristii* has primarily been associated with pulmonary and constitutional symptoms.

Approximately 50% of patients infected with *Blastomyces* will develop symptoms, which are frequently non-specific, including fever, cough, night sweats, myalgia or arthralgia, weight loss, chest pain and fatigue. Typically symptoms appear anywhere from 3 weeks to 3 months following infection.

Diagnosis of blastomycosis relies on a combination of assays, including culture and molecular testing on appropriate specimens and serologic evaluation for both antibodies to and antigen released from *Blastomyces*. Although culture remains the gold standard method and is highly specific, the organism can take several days to weeks to grow and sensitivity is diminished in cases of acute or localized disease. Similarly, molecular testing offers high specificity and a rapid turnaround time, however sensitivity is imperfect. Detection of an antibody response to *Blastomyces* offers high specificity, however results may be falsely negative in acutely infected patients and in immunosuppressed patients.

**Reference Values**

Negative

Reference values apply to all ages.

**Interpretation**

A positive result indicates that IgG and/or IgM antibodies to *Blastomyces* were detected. The presence of antibodies is presumptive evidence that the patient was or is currently infected with (or was exposed to) *Blastomyces*.

A negative result indicates that antibodies to *Blastomyces* were not detected. The absence of antibodies is
presumptive evidence that the patient was not infected with *Blastomyces*. However, the specimen may have been obtained before antibodies were detectable or the patient may be immunosuppressed. If infection is suspected, another specimen should be drawn 7 to 14 days later and submitted for testing.

Specimens testing positive or equivocal will be submitted for further testing by another conventional serologic test (eg, SBL / *Blastomyces* Antibody by Immunodiffusion, Serum).

**Cautions**

A negative result does not rule-out blastomycosis.

Cross-reactivity may occur with other fungal infections such as *Aspergillus*, *Coccidioides*, or *Histoplasma*.

**Clinical Reference**


**Method Description**

The Omega *Blastomyces* Total Antibody EIA assay uses microwells coated with purified *Blastomyces* yeast-phase antigen. Patient specimen is diluted in diluent buffer and incubated in the coated microwell. If present, IgG and/or IgM antibodies will bind to the antigen. The microwells are washed to remove unbound serum components. A secondary antibody, rabbit anti-human IgG and IgM antibody conjugated to horseradish peroxidase, is added to the microwell and incubated. The secondary antibody will bind to the antibody-antigen complexes. The microwells are washed to remove unbound conjugate. Substrate solution containing urea peroxide and tetramethylbenzidine is added to the microwells causing a color change. After a final incubation period, stop solution is added to the microwells and the color change is quantified by measuring the optical density (OD). Specimen OD readings are compared to calibrator cutoff OD readings to determine results. (Package insert: Omega *Blastomyces* Total Antibody EIA, Immuno-Mycologics, Inc., 2700 Technology Place, Norman, OK; Revision 1/24/2018)

**PDF Report**

No

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

Monday through Friday, Sunday; 9 a.m.

**Analytic Time**

1 day

**Maximum Laboratory Time**

3 days

**Specimen Retention Time**

14 days

**Performing Laboratory Location**

Rochester

**Fees and Codes**
Test Definition: BLAST
Blastomyces Ab, EIA, S

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, approved or is exempt 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
86612

LOINC® Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>BLAST</td>
<td>Blastomyces Ab, EIA, S</td>
<td>7816-2</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
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