### Overview

#### Useful For
Assessing a patient's immunological (IgG) response to *Haemophilus influenzae* type B (HIB) vaccine

Assessing immunity against HIB

Aiding in the evaluation of immunodeficiency

#### 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:** 0.5 mL

**Forms**

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

#### Specimen Minimum Volume
0.2 mL

#### Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</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>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
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</tr>
</tbody>
</table>
Haemophilus influenzae type B (HIB) is an encapsulated gram-negative cocco-bacillary bacterium that can cause devastating disease in young children including meningitis, bacteraemia, cellulitis, epiglottitis, pneumonia, and septic arthritis.

One of the great advances in modern medicine has been the development of an effective vaccine against HIB. A patient's immunological response to HIB vaccine can be determined by measuring anti-HIB IgG antibody using this enzyme immunoassay (EIA) technique.

Reference Values
> or =0.15 mg/L

Reference values apply to all ages.

Interpretation
An anti-Haemophilus influenzae type B (HIB) IgG antibody concentration of 0.15 mg/L is generally accepted as the minimum level for protection at a given time; however, it does not confer long-term protection. A study from Finland suggested that the optimum protective level is 1.0 mg/L postimmunization.(1) Furthermore, studies have shown that the response to HIB vaccine is age-related.

By testing pre- and postvaccination patient serum specimens, this test may be used to aid diagnosis of immunodeficiency.

Cautions
This assay does not provide diagnostic proof of the presence or absence of immune deficiency. Results must be confirmed by clinical findings and other laboratory tests.

Clinical Reference

Performance
Method Description
Microwells are precoated with the Haemophilus influenzae type B (HIB) capsular polysaccharide antigen conjugated to human serum albumin. The calibrators, controls, and diluted patient specimens are added to the wells and antibodies recognizing the HIB antigen bind during the first incubation. After washing the wells to remove all unbound proteins, purified peroxidase-labeled rabbit antihuman IgG (gamma chain specific) conjugate is added. The conjugate binds to the captured human antibody and the excess unbound conjugate is removed by a further wash step. The bound conjugate is visualized with 3,3', 5,5' tetramethylbenzidine (TMB) substrate, which gives a blue reaction product, the intensity of which is proportional to the concentration of antibody in the specimen. Phosphoric acid is added to each well to stop the reaction. This produces a yellow end point color, which is read at 450 nm.(Madore DV, Anderson P, Baxter BD, et al: Interlaboratory study evaluating quantitation of antibodies to Haemophilus influenzae type B polysaccharide by enzyme-linked immunosorbent assay. Clin Diagn Lab Immunol.
Test Definition: HIBS
Haemophilus influenzae B Ab, IgG, S

1996;3[1]:84-88)

PDF Report
No

Day(s) and Time(s) Test Performed
Monday, Wednesday, Friday; 8 a.m.

Analytic Time
Same day/1 day

Maximum Laboratory Time
4 days

Specimen Retention Time
2 weeks

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
86684

LOINC® Information

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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>HIBS</td>
<td>Haemophilus influenzae B Ab, IgG, S</td>
<td>11257-3</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
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<tbody>
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<td>83261</td>
<td>Haemophilus influenzae B Ab, IgG, S</td>
<td>11257-3</td>
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