Overview

Useful For
Testing for IgE antibodies may be useful to establish the diagnosis of an allergic disease and to define the allergens responsible for eliciting signs and symptoms.

Testing also may be useful to identify allergens which may be responsible for allergic disease and/or anaphylactic episode, to confirm sensitization to particular allergens prior to beginning immunotherapy, and to investigate the specificity of allergic reactions to insect venom allergens, drugs, or chemical allergens.

Special Instructions
- **Allergens - Immunoglobulin E (IgE) Antibodies**

Method Name
FluorescenceEnzymeImmunoassay (FEIA)

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required

Container/Tube:

Preferred: Red top

Acceptable: Serum gel

Specimen Volume: 0.5 mL for each 5 allergens requested

Additional Information: Designate specific allergens from the list in Allergens-IgE Antibodies in Special Instructions.

Forms
If not ordering electronically, complete, print, and send an Allergen Test Request Form (T236) with the specimen.

Specimen Minimum Volume
For 1 allergen: 0.3 mL; For more than 1 allergen: (0.05 mL x number of allergens) + 0.25 mL dead space

Reject Due To

<table>
<thead>
<tr>
<th></th>
<th>Mild OK; Gross OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td></td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
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</table>
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
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<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
</tr>
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</table>

Clinical and Interpretive

Clinical Information

Clinical manifestations of immediate hypersensitivity (allergic) diseases are caused by the release of proinflammatory mediators (histamine, leukotrienes, and prostaglandins) from immunoglobulin E (IgE)-sensitized effector cells (mast cells and basophils) when cell-bound IgE antibodies interact with allergen.

In vitro serum testing for IgE antibodies provides an indication of the immune response to allergen(s) that may be associated with allergic disease.

The allergens chosen for testing often depend upon the age of the patient, history of allergen exposure, season of the year, and clinical manifestations. In individuals predisposed to develop allergic disease(s), the sequence of sensitization and clinical manifestations proceed as follows: eczema and respiratory disease (rhinitis and bronchospasm) in infants and children less than 5 years due to food sensitivity (milk, egg, soy, and wheat proteins) followed by respiratory disease (rhinitis and asthma) in older children and adults due to sensitivity to inhalant allergens (dust mite, mold, and pollen inhalants).

Reference Values

<table>
<thead>
<tr>
<th>Class</th>
<th>IgE kU/L</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&lt;0.35</td>
<td>Negative</td>
</tr>
<tr>
<td>1</td>
<td>0.35-0.69</td>
<td>Equivocal</td>
</tr>
<tr>
<td>2</td>
<td>0.70-3.49</td>
<td>Positive</td>
</tr>
<tr>
<td>3</td>
<td>3.50-17.4</td>
<td>Positive</td>
</tr>
<tr>
<td>4</td>
<td>17.5-49.9</td>
<td>Strongly positive</td>
</tr>
<tr>
<td>5</td>
<td>50.0-99.9</td>
<td>Strongly positive</td>
</tr>
<tr>
<td>6</td>
<td>&gt;or =100</td>
<td>Strongly positive</td>
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</table>

Reference values apply to all ages.

Interpretation

Detection of IgE antibodies in serum (Class 1 or greater) indicates an increased likelihood of allergic disease as opposed to other etiologies and defines the allergens that may be responsible for eliciting signs and symptoms.

The level of IgE antibodies in serum varies directly with the concentration of IgE antibodies expressed as a class score or kU/L.

Cautions
Testing for IgE antibodies is not useful in patients previously treated with immunotherapy to determine if residual clinical sensitivity exists, or in patients in whom the medical management does not depend upon identification of allergen specificity.

Some individuals with clinically insignificant sensitivity to allergens may have measurable levels of IgE antibodies in serum, and results must be interpreted in the clinical context.

False-positive results for IgE antibodies may occur in patients with markedly elevated serum IgE (>2,500 kU/L) due to nonspecific binding to allergen solid phases.

Clinical Reference

Performance

Method Description
Specific IgE from the patient's serum reacts with the allergen of interest, which is covalently coupled to an ImmunoCAP. After washing away nonspecific IgE, enzyme-labeled anti-IgE antibody is added to form a complex. After incubation, unbound anti-IgE is washed away and the bound complex is then incubated with a developing agent. After stopping the reaction, the fluorescence of the eluate is measured. Fluorescence is proportional to the amount of specific IgE present in the patient's sample (ie, the higher the fluorescence value, the more IgE antibody is present).(Package insert: ImmunoCAP System Specific IgE FEIA, Uppsala, Sweden Rev 02/2005)

PDF Report
No

Day(s) and Time(s) Test Performed
Monday through Friday; 9 a.m.-8 p.m., Saturday; 8 a.m.-3 p.m.

Analytic Time
Same day/1 day

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**

86003

**LOINC® Information**

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<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>PAHD</td>
<td>Phthalic Anhydride, IgE</td>
<td>7601-8</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>PAHD</td>
<td>Phthalic Anhydride, IgE</td>
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