



Test Definition: NEREG

Northeast Regional Allergen Profile, Serum

Overview

Useful For

Establishing a diagnosis of an allergy to a Northeast regional allergen

Defining the allergen responsible for eliciting signs and symptoms

Identifying allergens:

- Responsible for allergic response or anaphylactic episode
- To confirm sensitization prior to beginning immunotherapy
- To investigate the specificity of allergic reactions to insect venom allergens, drugs, or chemical allergens

This test is **not useful** for patients previously treated with immunotherapy to determine if residual clinical sensitivity exists or in whom the medical management does not depend upon identification of allergen specificity.

Profile Information

| Test Id | Reporting Name | Available Separately | Always Performed |
|---------|----------------------------|----------------------|------------------|
| OAK | Oak, IgE | Yes | Yes |
| TIMG | Timothy Grass, IgE | Yes | Yes |
| JUNE | June Grass, IgE | Yes | Yes |
| SRW | Short Ragweed, IgE | Yes | Yes |
| LAMQ | Lambs Quarter, IgE | Yes | Yes |
| CAT | Cat Epithelium, IgE | Yes | Yes |
| DOGD | Dog Dander, IgE | Yes | Yes |
| CLAD | Cladosporium, IgE | Yes | Yes |
| ALTN | Alternaria Tenuis, IgE | Yes | Yes |
| DF | House Dust Mites/D.F., IgE | Yes | Yes |

Special Instructions

- [Allergens - Immunoglobulin E \(IgE\) Antibodies](#)

Method Name

Fluorescence Enzyme Immunoassay (FEIA)

NY State Available

Yes

Specimen

Specimen Type

Serum

Ordering Guidance

For a listing of allergens available for testing, see [Allergens - Immunoglobulin E \(IgE\) Antibodies](#)

Specimen Required

Supplies: Sarstedt Aliquot Tube, 5 mL (T914)

Collection Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Submission Container/Tube: Plastic vial

Specimen Volume: 1 mL

Collection Instructions: Centrifuge and aliquot serum into a plastic vial.

Forms

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

Specimen Minimum Volume

0.75 mL

Reject Due To

| | |
|-----------------|----|
| Gross hemolysis | OK |
| Gross lipemia | OK |

Specimen Stability Information

| Specimen Type | Temperature | Time | Special Container |
|---------------|--------------------------|---------|-------------------|
| Serum | Refrigerated (preferred) | 14 days | |
| | Frozen | 90 days | |

Clinical & Interpretive

Clinical Information

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

In vitro serum testing for IgE antibodies provides an indication of the immune response to allergens 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, the sequence of sensitization and clinical manifestations proceed as follows: eczema and respiratory disease (rhinitis and bronchospasm) in infants and children younger 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

| Class | IgE kU/L | Interpretation |
|-------|-----------|----------------------|
| 0 | <0.10 | Negative |
| 0/1 | 0.10-0.34 | Borderline/equivocal |
| 1 | 0.35-0.69 | Equivocal |
| 2 | 0.70-3.49 | Positive |
| 3 | 3.50-17.4 | Positive |
| 4 | 17.5-49.9 | Strongly positive |
| 5 | 50.0-99.9 | Strongly positive |
| 6 | > or =100 | Strongly positive |

Concentrations of 0.70 kU/L or more (class 2 and above) will flag as abnormally high.

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

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

False-positive results for IgE antibodies may occur in patients with markedly elevated serum IgE (>2500 kU/L) due to nonspecific binding to allergen solid phases.

Clinical Reference

Homburger HA, Hamilton RG: Allergic diseases. In: McPherson RA, Pincus MR, eds. *Henry's Clinical Diagnosis and Management by Laboratory Methods*. 23rd ed. Elsevier; 2017:1057-1070

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 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. Phadia; Rev 06/2020)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

1 to 3 days

Specimen Retention Time

14 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Superior Drive

Fees & 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 account representative. For assistance, contact [Customer Service](#).

Test Classification

This test has been cleared, approved, or is exempt by the US 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 x 10

LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---------|-------------------------------------|--------------------|
| NEREG | Northeast Regional Allergen Profile | 94593-1 |

| Result ID | Test Result Name | Result LOINC® Value |
|-----------|------------------------|---------------------|
| ALTN | Alternaria Tenuis, IgE | 6020-2 |
| CAT | Cat Epithelium, IgE | 6833-8 |
| CLAD | Cladosporium, IgE | 53760-5 |

| | | |
|------|----------------------------|--------|
| DF | House Dust Mites/D.F., IgE | 6095-4 |
| DOGD | Dog Dander, IgE | 6098-8 |
| JUNE | June Grass, IgE | 6153-1 |
| LAMQ | Lambs Quarter, IgE | 6156-4 |
| OAK | Oak, IgE | 6189-5 |
| SRW | Short Ragweed, IgE | 6085-5 |
| TIMG | Timothy Grass, IgE | 6265-3 |