MAYO CLINIC LABORATORIES

Test Definition: SEAS

Seasonal Inhalants Allergen Profile, Serum

Overview

Useful For

Establishing a diagnosis of an allergy to seasonal inhalants

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
RYEG	Rye Grass, IgE	Yes	Yes
JUNE	June Grass, IgE	Yes	Yes
SRW	Short Ragweed, IgE	Yes	Yes
EGPL	English Plantain, IgE	Yes	Yes
LAMQ	Lambs Quarter, IgE	Yes	Yes
BXMPL	Box Eld/Maple, S, IgE	Yes	Yes
OAK	Oak, IgE	Yes	Yes
ELM	Elm, IgE	Yes	Yes
TIMG	Timothy Grass, IgE	Yes	Yes
BIR	Silver Birch, 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 allergens.

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 mites, 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 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
Same day/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
SEAS	Seasonal Inhalants Allergen Profile	94593-1

Result ID	Test Result Name	Result LOINC® Value
BIR	Silver Birch, IgE	15283-5
BXMPL	Box Eld/Maple, S, IgE	7155-5
EGPL	English Plantain, IgE	6110-1

ELM	Elm, IgE	6109-3
JUNE	June Grass, IgE	6153-1
LAMQ	Lambs Quarter, IgE	6156-4
OAK	Oak, IgE	6189-5
RYEG	Rye Grass, IgE	7369-2
SRW	Short Ragweed, IgE	6085-5
TIMG	Timothy Grass, IgE	6265-3