MAYO CLINIC LABORATORIES

Test Definition: SEAFP

Seafood Allergen Profile, Serum

Overview

Useful For

Establishing a diagnosis of an allergy to seafood (cod, crab, lobster, shrimp, or tuna)

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
COD	Codfish, IgE	Yes	Yes
CRAB	Crab, IgE	Yes	Yes
SHRI	Shrimp, IgE	Yes	Yes
TUNA	Tuna, IgE	Yes	Yes
LOB	Lobster, 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 in Special Instructions

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: 0.7 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

0.5 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 allergen 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

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.

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.

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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 5

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
SEAFP	Seafood Allergen Profile	49222-3

Result ID	Test Result Name	Result LOINC® Value
COD	Codfish, IgE	6082-2
CRAB	Crab, IgE	6092-1
LOB	Lobster, IgE	6165-5
SHRI	Shrimp, IgE	6246-3
TUNA	Tuna, IgE	6270-3