



# Test Definition: DAGR

Dairy and Grain Allergen Profile, Serum

## Overview

### Useful For

Establishing a diagnosis of an allergy to dairy and grain

Defining the allergen responsible for eliciting signs and symptoms

Identifying allergens:

- Responsible for allergic response and/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

### Profile Information

Test Id	Reporting Name	Available Separately	Always Performed
EGG	Egg White, IgE	Yes	Yes
MILK	Milk, IgE	Yes	Yes
WHT	Wheat, IgE	Yes	Yes
OATS	Oat, IgE	Yes	Yes
SOY	Soybean, 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:** 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(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**

Class	IgE kU/L	Interpretation
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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

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 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 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 02/2024)

#### 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 5

**LOINC® Information**

Test ID	Test Order Name	Order LOINC® Value
DAGR	Dairy and Grain Allergen Profile	49222-3

Result ID	Test Result Name	Result LOINC® Value
EGG	Egg White, IgE	6106-9
MILK	Milk, IgE	6174-7
OATS	Oat, IgE	6190-3
SOY	Soybean, IgE	6248-9
WHT	Wheat, IgE	6276-0