MAYO CLINIC LABORATORIES

Test Definition: EMAIG

Endomysial Antibodies, IgG, Serum

Overview

Useful For

Analysis of IgG-endomysial antibodies for the diagnosis of dermatitis herpetiformis and celiac disease

Monitoring adherence to gluten-free diet in patients with dermatitis herpetiformis and celiac disease

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
EMAGT	EMA Titer (IgG), S	No	No

Testing Algorithm

If the IgG-endomysial antibodies result is positive or indeterminate, then the antibody titer will be performed at an additional charge.

The following algorithms are available:
-Celiac Disease Comprehensive Cascade Test Algorithm
-Celiac Disease Diagnostic Testing Algorithm
-Celiac Disease Gluten-Free Cascade Test Algorithm
-Celiac Disease Routine Treatment Monitoring Algorithm
-Celiac Disease Serology Cascade Test Algorithm

Special Instructions

- Celiac Disease Diagnostic Testing Algorithm
- Celiac Disease Comprehensive Cascade Test Algorithm
- Celiac Disease Gluten-Free Cascade Test Algorithm
- Celiac Disease Routine Treatment Monitoring Algorithm
- Celiac Disease Serology Cascade Test Algorithm

Method Name

Indirect Immunofluorescence Assay (IFA)

NY State Available

Yes

Specimen

Specimen Type

Serum

Ordering Guidance

Cascade testing is recommended for celiac disease. Cascade testing ensures that testing proceeds in an algorithmic fashion. The following cascade tests are available; select the appropriate one for your specific patient situation.
-For complete testing including human leukocyte antigen (HLA) DQ, order CDCOM / Celiac Disease Comprehensive Cascade, Serum and Whole Blood
-For complete testing excluding HLA DQ, order CDSP / Celiac Disease Serology Cascade, Serum
-For patients already adhering to a gluten-free diet, order CDGF / Celiac Disease Gluten-Free Cascade, Serum and Whole Blood

To order individual tests, see Celiac Disease Diagnostic Testing Algorithm.

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

Forms

If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Test Request (T728) with the specimen.

Specimen Minimum Volume

Serum: 0.5 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	14 days	
	Ambient	14 days	
	Frozen	30 days	

Clinical & Interpretive

Clinical Information

Circulating IgG endomysial antibodies are present in 70% to 80% of patients with dermatitis herpetiformis or celiac disease, and in nearly all such patients who have high grade gluten-sensitive enteropathy and are not adhering to a gluten-free diet.

Because of the high specificity of endomysial antibodies for celiac disease, the test may obviate the need for multiple small bowel biopsies to verify the diagnosis. This may be particularly advantageous in the pediatric population, including the evaluation of children with failure to thrive.

Reference Values

Negative

Interpretation

Results will be negative in individuals without any known dermatitis herpetiformis or celiac disease, as well as in patients with either dermatitis herpetiformis or celiac disease while adhering to gluten-free diet.

The finding of IgG-endomysial antibodies (EMA) is highly specific for dermatitis herpetiformis or celiac disease.

The titer of IgG-EMA generally correlates with the severity of gluten-sensitive enteropathy.

If patients strictly adhere to a gluten-free diet, the titer of IgG-EMA should begin to decrease within 6 to 12 months of onset of dietary therapy.

Occasionally, the staining results cannot be reliably interpreted as positive or negative because of strong smooth muscle staining, weak EMA staining or other factors; in this case, the results will be recorded as "indeterminate." In this setting, further testing with measurement of TTGA / Tissue Transglutaminase Antibody, IgA, Serum and IGG / Immunoglobulin G (IgG), Serum levels are recommended.

Cautions

A negative result (absence of circulating IgG-endomysial antibodies) does not exclude the diagnosis of dermatitis herpetiformis or celiac disease.

Patients with mild gluten-sensitive enteropathy may have a negative result.

Clinical Reference

1. Dahlbom I, Olsson M, Forooz NK, Sjoholm AG, Truedsson L, Hannson T. Immunoglobulin G (IgG) anti-tissue transglutaminase antibodies used as markers for IgA-deficient celiac disease patients. Clin Diagn Lab Immunol. 2005;12(2): 254-258. doi:10.1128/CDLI.12.2.254-258.2005
2. Korponay-Szabo IR, Dahlbom I, Laurila K, et al. Elevation of IgG antibodies against tissue transglutaminase as a diagnostic tool for coeliac disease in selective IgA deficiency. Gut. 2003;52(11):1567-1571. doi:10.1136/gut.52.11.1567
3. Kumar V, Jarzabek-Chorzelska M, Sulej J, Karnewska K, Farrell T, Jablonska S. Celiac disease and immunoglobulin A deficiency: How effective are the serological methods of diagnosis? Clin Diagn Lab Immunol. 2002;9(6):1295-1300. doi:10.1128/CDLI.9.6.1295-1300.2002
4. Elwenspoek MMC, Jackson J, Dawson S, et al. Accuracy of potential diagnostic indicators for coeliac disease: a systematic review protocol. BMJ Open. 2020;10(10):e038994. doi:10.1136/bmjopen-2020-038994

Performance

Method Description
Frozen sections of primate esophagus substrate are overlaid with dilutions of patient's serum, incubated, covered with fluorescein-conjugated IgG antiserum, and interpreted with a fluorescence microscope.(Package insert: NOVA Lite Monkey Oesophagus IFA Kit/Slides. Inova Diagnostics; 05/2018)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
2 to 7 days

Specimen Retention Time
14 days

Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Main Campus

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 modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information
86231-screen
86231-titer (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
EMAIG	Endomysial Abs (IgG), S	39554-1

Test Definition: EMAIG

Endomysial Antibodies, IgG, Serum

Result ID	Test Result Name	Result LOINC® Value
608880	Endomysial IgG Ab, S	39554-1