MAYO CLINIC LABORATORIES

Test Definition: SCERA

Saccharomyces cerevisiae Ab, IgA, S

Overview

Useful For

Measurement of IgA anti-*Saccharomyces cerevisiae* antibodies as a part of a profile to aid in distinguishing between ulcerative colitis and Crohn disease in patients for whom the specific diagnosis is unclear based on endoscopic, pathologic, and imaging evaluations

This test is **not useful** for determining the extent of disease in patients with inflammatory bowel disease or determining the response to disease-specific therapy including surgical resection of diseased intestine

Method Name

Enzyme-Linked Immunosorbent Assay (ELISA)

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Specimen Volume: 0.5 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	OK
Heat-treated specimen	Reject

Specimen Minimum Volume

0.4 mL

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	21 days	
	Frozen	21 days	

Clinical & Interpretive

Clinical Information

Inflammatory bowel disease (IBD) refers to 2 diseases - ulcerative colitis (UC) and Crohn disease (CD, regional enteritis), both of which result from chronic inflammation in the gastrointestinal (GI) tract.(1) CD is characterized by chronic diarrhea, abdominal pain, and fatigue.(2) In comparison, UC frequently presents with bloody diarrhea that is of an urgent nature.(3) Inflammation in UC most frequently affects the rectum and proximal colon, and presents with continue mucosal involvement. In CD, inflammation can affect almost any area of the GI tract and is usually evidenced as patchy, transmural lesions.

Diagnosis of IBD is primarily based on clinical evaluation, endoscopy with biopsy, and imaging studies.(4) Because CD and UC are characterized by GI inflammation, fecal calprotectin can be used to differentiate IBD from noninflammatory conditions such as irritable bowel syndrome (IBS). Fecal calprotectin is useful in excluding IBD as a diagnosis and avoiding unnecessary endoscopic or imaging procedures.

CD and UC are associated with the presence of various antimicrobial and autoantibodies.(5) Patients with UC often have measurable antineutrophil cytoplasmic antibodies (ANCA), which react with as yet uncharacterized target antigens in human neutrophils; in contrast, patients with CD often have measurable IgA and/or IgG antibodies, which react with cell wall mannan of *Saccharomyces cerevisiae*. Despite these associations, current guidelines indicate that testing for these antibodies is not sufficiently sensitive for use in the diagnosis of IBD.(2,3) Rather, these antibodies should be limited to distinguishing between CD and UC in cases where the specific diagnosis is unclear based on pathologic and imaging studies.

Reference Values

Negative: <20.0 RU/mL

Positive: > or =20.0 RU/mL

Reference values apply to all ages.

Interpretation

The presence of antineutrophil cytoplasmic antibodies (ANCA) in the absence of IgA and IgG anti-*Saccharomyces cerevisiae* antibodies (ASCA) is consistent with the diagnosis of ulcerative colitis; the presence of IgA and IgG ASCA in the absence of ANCA is consistent with Crohn disease .

Cautions

Results from this test should not be exclusively relied upon to establish the diagnosis of ulcerative colitis (UC) or Crohn disease (CD) or to distinguish between these 2 diseases. *Saccharomyces cerevisiae* IgA and IgG antibodies (ASCA) are most useful for distinguishing between UC and CD when assessed in conjunction with antineutrophil cytoplasmic antibodies (ANCA).

Some patients with CD have detectable ANCA, and some patients with UC have detectable IgA and/or IgG ASCA. Some patients with UC or CD do not have detectable ANCA, IgA ASCA, or IgG ASCA.

Clinical Reference

1. Rose NR, Mackay IR, eds: Inflammatory bowel diseases. In: The Autoimmune Diseases: Elsevier; 2008

2. Lichtenstein GR, Loftus EV, Isaacs KL, Regueiro MD, Gerson LB, Sands BE: ACG Clinical Guideline: Management of Crohn's disease in adults. Am J Gastroenterol. 2018 Apr;113(4):481-517

3. Rubin DT, Ananthakrishnan AN, Siegel CA, Sauer BG, Long MD: ACG Clinical Guideline: Ulcerative colitis in adults. Am J Gastroenterol. 2019 Mar;114(3):384-413

4. Clark C, Turner J: Diagnostic modalities for inflammatory bowel disease: Serologic markers and endoscopy. Surg Clin North Am. 2015 Dec;95(6):1123-1141

5. Zhou G, Song Y, Yang W, et al: ASCA, ANCA, ALCA and many more: Are they useful in the diagnosis of inflammatory bowel disease? Dig Dis. 2016;34(1-2):90-97

Performance

Method Description

Immunoglobulin A (IgA) anti-*Saccharomyces cerevisiae* antibodies (ASCA) are measured by commercial, microtiter enzyme immunoassay. Partially purified and disrupted *S cerevisiae* is bound to the wells of a polystyrene microtiter plate coated with purified mannan from the cell wall of *S cerevisiae*. Prediluted controls and diluted patient sera are added to separate wells, allowing any anti-*S cerevisiae* antibodies (ASCA) IgG or IgA antibodies present to bind to the immobilized antigen. Unbound sample is washed away, and a horseradish peroxidase-conjugated anti-human IgA antibody is added to each well. A second incubation allows the enzyme-labeled anti-human IgA to bind to any patient antibodies, which have become attached to the microtiter wells. After washing away any unbound enzyme labeled anti-human IgA, the remaining enzyme activity is assessed by adding a chromogenic substrate and measuring the intensity of the color that develops. The assay is evaluated by spectrophotometrically measuring and comparing the color intensity that develops

in the patient wells with the color in the control wells. Results of the test for IgA ASCA are reported in relative units per milliliter (RU/mL).(Package insert: Anti-Saccharomyces cerevisiae ELISA (IgA). EUROIMMUN Medizinische Labordiagnostika AG; 05/2011)

PDF Report

No

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees & Codes

Test Classification

This test was developed, and its performance characteristics 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

86671

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
SCERA	Saccharomyces cerevisiae Ab, IgA, S	47320-7

Result ID	Reporting Name	LOINC®
SCERA	Saccharomyces cerevisiae Ab, IgA, S	47320-7