Test Definition: SM

Sm Ab, IgG, S

Overview

Useful For

Evaluating patients with signs and symptoms of a connective tissue disease in whom the test for antinuclear antibodies is positive

Testing for Sm antibodies is **not useful** in patients without demonstrable antinuclear antibodies.

Testing Algorithm

See Connective Tissue Disease Cascade (CTDC) in Special Instructions.

Special Instructions

- Connective Tissue Disease Cascade (CTDC)

Method Name

MultiplexFlowImmunoassay

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Specimen Volume:0.5 mL

Specimen Minimum Volume

0.35 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	OK

Specimen Stability Information

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

Specimen Type	Temperature	Time	Special Container
	Frozen	21 days	

Clinical and Interpretive

Clinical Information

Sm (Smith) is a small nuclear ribonucleoprotein composed of several protein autoantigens designated B, B1, D, E, F, and G, which range in size from 11 kD to 26 kD. Sm antibodies are specific for lupus erythematosus (LE) and occur in approximately 30% of LE patients. The levels of Sm antibodies remain relatively constant over time in patients with LE and are usually found in patients that also have RNP (ribonucleoprotein) antibodies.(1,2)

Sm is 1 of 4 autoantigens commonly referred to as extractable nuclear antigens (ENA). The other ENA are RNP, SS-A/Ro, and SS-B/La. Each ENA is composed of 1 or more proteins associated with small nuclear RNA species (snRNA) ranging in size from 80 to approximately 350 nucleotides. Antibodies to ENA are common in patients with connective tissue diseases (systemic rheumatic diseases) including LE, mixed connective tissue disease, Sjogren syndrome, scleroderma (systemic sclerosis), and polymyositis/dermatomyositis.

See Connective Tissue Disease Cascade (CTDC) in Special Instructions.

Reference Values

<1.0 U (negative)

> or =1.0 U (positive)

Reference values apply to all ages.

Interpretation

A positive result for anti-Sm antibodies is consistent with a diagnosis of lupus erythematosus.

Cautions

No significant cautionary statements.

Clinical Reference

1. Homburger H, Larsen S: Detection of specific antibodies. In Clinical Immunology: Principles and Practice. First edition. Edited by R Rich, T Fleisher, B Schwartz, et al. St. Louis, Mosby-Year Book, 1996, pp 2096-2109

2. Kotzin B, West S: Systemic lupus erythematosus. In Clinical Immunology Principles and Practice. Second edition. Edited by R Rich, T Fleisher, W Shearer, et al. St. Louis, Mosby-Year Book, 2001, pp 60.1-60.24

Performance

Method Description

Affinity-purified Sm antigens are bound to polystyrene microspheres, which are impregnated with fluorescent dyes to create a unique fluorescent signature. Sm antibodies, if present in diluted serum, bind to the Sm antigens on the microspheres. The microspheres are washed to remove extraneous serum proteins. Phycoerythrin (PE)-conjugated antihuman IgG antibody is then added to detect IgG anti-Sm bound to the microspheres. The microspheres are washed to remove unbound conjugate, and bound conjugate is detected by laser photometry. A primary laser reveals the fluorescent signature of each microsphere to distinguish it from microspheres that are labeled with other

antigens, and a secondary laser reveals the level of PE fluorescence associated with each microsphere. Results are calculated by comparing the median fluorescence response for Sm microspheres to a 4-point calibration curve.(Package insert: Bioplex 2200 ANA Screen. Bio-Rad Laboratories, Hercules, CA 11/2011)

PDF Report

No

Day(s) and Time(s) Test Performed

Monday through Saturday; 4 p.m.

Analytic Time

1 day

Maximum Laboratory Time

2 days

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees and 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 Regional Manager. For assistance, contact Customer Service.

Test Classification

This test has been cleared or approved by the U.S. 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

86235

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
SM	Sm Ab, IgG, S	18323-6

Result ID	Test Result Name	Result LOINC Value
SM	Sm Ab, IgG, S	18323-6