

SS-B/La Antibodies, IgG, Serum

# **Overview**

## **Useful For**

Evaluating patients with clinical features or at-risk for connective tissue disease, especially Sjögren syndrome.

## **Testing Algorithm**

For more information see **Connective Tissue Disease Cascade**.

## **Special Instructions**

Connective Tissue Disease Cascade

### **Method Name**

Multiplex Flow Immunoassay

## **NY State Available**

No

# **Specimen**

# **Specimen Type**

Serum

## **Specimen Required**

**Collection Container/Tube:** 

**Preferred:** Serum gel **Acceptable:** Red top

Submission Container/Tube: Plastic vial

Specimen Volume: 0.5 mL

**Collection Instructions:** Centrifuge and aliquot serum into a plastic vial.

#### **Forms**

If not ordering electronically, complete, print, and send a <u>Kidney Transplant Test Request</u> with the specimen.

# **Specimen Minimum Volume**

0.35 mL

## **Reject Due To**

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	OK



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Heat-treated	Reject
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## **Specimen Stability Information**

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

# **Clinical & Interpretive**

### **Clinical Information**

Sjogren syndrome (SjS) is a heterogeneous systemic autoimmune rheumatic disorder characterized by diverse immunologic responses to SS-A/Ro and SS-B/La antigens.(1) These immune reactivities have been implicated in the destruction of the epithelium of the exocrine glands with the demonstration of typical peri-epithelial lymphocytic infiltration that can vary from sicca syndrome to systemic disease and lymphoma.(2) The SS-A/Ro and SS-B/La system is considered as a heterogeneous antigenic complex which is made up of three different proteins (Ro52, Ro60 and La) and four small RNAs particles.(1,2) The SS-B/La antigen is a 48 kDa phosphorylated protein which can be found in the nucleus and the cytoplasm and binds to several RNA molecules.(3) SS-B/La appears to be susceptible to proteolysis and degrades into smaller but immunoreactive polypeptides.(4)

Unlike antibodies to SS-A/Ro that are present in SjS and other connective tissue diseases (CTD) [systemic lupus erythematosus, systemic sclerosis, inflammatory myopathies, overlap CTD] and primary biliary cholangitis, anti-SS-B/La antibodies are found primarily in patients with SjS.(2,5,6) In addition, SS-A/Ro antibodies may be found alone in many patients with SjS, however, anti-SS-B/La autoantibodies without SS-A/Ro has limited significant association for SjS diagnosis or phenotypic categorization.(2,6,7) Lastly, whereas testing for anti-SS-A/Ro antibodies is included in the 2016 American College of Rheumatology/European League Against Rheumatism classification criteria for primary SjS, evaluation of anti-SS-B/La antibodies is not required.(8)

In a recent multicenter study of more than 10,500 patients with primary SjS, anti-SSB/La antibodies were detected in 58% of anti-SSA/Ro antibody-positive cases.(9) Anti-SS-B/La antibodies are detected using a variety of solid-phase (eg, plate, bead, or membrane) immunoassays such as enzyme-linked immunosorbent assay, fluorometric enzyme-linked immunoassays, chemiluminescence immunoassays, addressable laser bead immunoassay particle-based multianalyte technology and dot or line immunoassays.(10)

For more information see <u>Connective Tissue Disease Cascade</u>.

# **Reference Values**

<1.0 U (negative)

> or =1.0 U (positive)

Reference values apply to all ages.

### Interpretation

A positive result for anti-SS-B/La antibodies may be suggestive of a diagnosis of primary or secondary connective tissue disease including Sjogren syndrome if compatible autoantibody profile and clinical symptoms are present. The positive



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predictive value for primary Sjogren syndrome is increased with positivity for antibodies to Ro52, Ro60, and SS-B/La. Combination of anti-SSB-B/A and anti-Ro52 and/or anti-Ro60 antibodies may also be useful in the phenotypic stratification of patients with primary Sjogren syndrome.

#### **Cautions**

Low levels and/or single positivity for anti-SS-B/La antibodies are likely to have limited clinical significance for the diagnosis and phenotypic stratification of patients with primary Sjogren syndrome.

### **Clinical Reference**

- 1. Brito-Zeron P, Baldini C, Bootsma H, et al. Sjogren syndrome. Nat Rev Dis Primers. 2016;2:16047
- 2. Vilchez-Oya F, Balastegui Martin H, Garcia-Martinez E, Corominas H. Not all autoantibodies are clinically relevant. Classic and novel autoantibodies in Sjogren's syndrome: A critical review. Front Immunol. 2022;13:1003054
- 3. Bachman M, Mayet WJ, Shroder HC, Pfeifer K, Meyer zum Buschenfelde KH, Muller WE. Association of La and Ro antigens with intracellular structures in HEp-2 carcinoma cells. Proc Natl Acad Sci U S A. 1986;83(20):7770-7774
- 4. Habets WJ, den Brok JH, Boerbooms AM, van de Putte LB, van Venrooij WJ. Characterization of the SS-B (La) antigen in adenovirus-infected and uninfected HeLa cells. EMBO J. 1983;2(10):1625-1631
- 5. Deroo L, Achten H, De Boeck K, et al. The value of separate detection of anti-Ro52, anti-Ro60 and anti-SSB/La reactivities in relation to diagnosis and phenotypes in primary Sjogren's syndrome. Clin Exp Rheumatol. 2022;40(12):2310-1317
- 6. Baer AN, McAdams DeMarco M, Shiboski SC, et al. The SSB-positive/SSA-negative antibody profile is not associated with key phenotypic features of Sjogren's syndrome. Ann Rheum Dis. 2015;74(8):1557-1561
- 7. Acar-Denizli N, Horvath IF, Mandl T, et al. Systemic phenotype related to primary Sjogren's syndrome in 279 patients carrying isolated anti-La/SSB antibodies. Clin Exp Rheumatol. 2020;38 Suppl 126(4):85-94
- 8. Shiboski CH, Shiboski SC, Seror R, et al. 2016 American College of Rheumatology/European League Against Rheumatism classification criteria for primary Sjogren's syndrome: A consensus and data-driven methodology involving three international patient cohorts. Ann Rheum Dis. 2017;76(1):9-16
- 9. Brito- Zeron P, Acar-Denizlin N, Ng WF et al. How immunological profile drives clinical phenotype of primary Sjogren's syndrome at diagnosis: analysis of 10,500 patients (Sjogren Big Data Project). Clin Exp Rheumatol. 2018;36(Suppl. 112):S102-112
- 10. Bossuyt X, De Langhe E, Borghi MO, Meroni PL. Understanding and interpreting antinuclear antibody tests in systemic rheumatic diseases. Nat Rev Rheumatol. 2020;16(12):715-726

#### **Performance**

#### **Method Description**

Affinity-purified SS-B antigen is coupled covalently to polystyrene microspheres, which are impregnated with fluorescent dyes to create a unique fluorescent signature. SS-B/La antibodies, if present in diluted serum, bind to the SS-B antigen 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-SS-B/La 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 SS-B/La microspheres to a 4-point calibration curve. (Package insert: BioPlex 2200 ANA Screen. Bio-Rad Laboratories; 02/2019)



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## **PDF Report**

No

# Day(s) Performed

Monday through Friday, Sunday

## **Report Available**

1 to 3 days

## **Specimen Retention Time**

14 days

## **Performing Laboratory Location**

Mayo Clinic Jacksonville Clinical Lab

## **Fees & Codes**

### **Fees**

- Authorized users can sign in to <u>Test Prices</u> for detailed fee information.
- Clients without access to Test Prices can contact <u>Customer Service</u> 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact <u>Customer Service</u>.

# **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**

86235

## **LOINC®** Information

Test ID	Test Order Name	Order LOINC® Value
SSB	SS-B/La Ab, IgG, S	33613-1

Result ID	Test Result Name	Result LOINC® Value
SSB	SS-B/La Ab, IgG, S	33613-1