MAYO CLINIC LABORATORIES

Test Definition: RIB

Ribosome P Ab, IgG, S

Overview

Useful For

As an adjunct in the evaluation of patients with lupus erythematosus (LE)

Aids in the differential diagnosis of neuropsychiatric symptoms in patients with LE

Testing Algorithm

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

Special Instructions

- Connective Tissue Disease Cascade (CTDC)

Method Name

Multiplex Flow Immunoassay

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

Specimen Minimum Volume

0.35 mL

Specimen Stability Information

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

Clinical & Interpretive

Clinical Information

The 80S mammalian ribosome is composed of approximately equal amounts of protein and RNA. The larger 60S subunit contains 3 acidic phosphoproteins, PO, P1, and P2 with molecular masses of 38 kDa, 19 kDa, and 17 kDa, respectively. The major immunoreactive epitope of these 3 autoantigens is found within 22 consecutive amino acids of the carboxy terminus of these 3 highly conserved proteins.

It has been known for some time that sera from some patients with lupus erythematosus (LE) react with ribosomal protein antigens. Studies performed with synthetic peptide antigens revealed that reactivity detected by immunoprecipitation and by immunofluorescence methods in sera from LE patients was directed at the above mentioned epitope. Antibodies to ribosome P proteins are considered highly specific for LE, and have been reported in patients with central nervous system (CNS) involvement and so called "lupus psychosis." The reported frequency of antibodies to ribosome P protein autoantigens in patients with LE is approximately 12%.

Since patients with LE may manifest signs and symptoms of CNS diseases including neuropsychiatric symptoms, the presence of antibodies to ribosome P protein may be useful in the differential diagnosis of such patients. Other causes of CNS symptoms in patients with LE include thrombosis with or without antibodies to phospholipid antigens and iatrogenic effects from treatment with corticosteroid drugs.

Reference Values

<1.0 U (negative)

> or =1.0 U (positive)

Reference values apply to all ages.

Interpretation

A positive result is consistent with the diagnosis of lupus erythematosus, and may indicate the presence of central nervous system involvement.

Cautions

Most patients with lupus erythematosus (LE) do not have detectable levels of antibodies to ribosome P protein.

This test should not be relied upon to establish the diagnosis or to rule out the diagnosis in a patient with signs and symptoms compatible with LE.

Clinical Reference

1. Bonfa E, Golombek SJ, Kaufman LD, et al: Association between lupus psychosis and anti-ribosomal P protein antibodies. N Engl J Med 1987;317:265-271

2. Bonfa E, Elkon KB: Clinical and serologic associations of the anti-ribosomal P protein antibody. Arthritis Rheum 1986;29:981-985

Performance

Method Description

Affinity-purified ribosome P antigens are coupled covalently to polystyrene microspheres, which are impregnated with fluorescent dyes to create a unique fluorescent signature. Ribosome P antibodies, if present in diluted serum, bind to ribosome P 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-ribosome P antibodies 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 ribosome P microspheres to a 4-point calibration curve.(Package insert: Bioplex 2200 ANA Screen. Bio-Rad Laboratories, Hercules, CA11/2011)

PDF Report

No

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees & Codes

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

83516

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
RIB	Ribosome P Ab, IgG, S	53892-6

Result ID	Reporting Name	LOINC®
RIB	Ribosome P Ab, IgG, S	53892-6