MAYO CLINIC LABORATORIES

Test Definition: JO1

Jo 1 Antibodies, IgG, Serum

Overview

Useful For

Evaluating patients with signs and symptoms compatible with a connective tissue disease, especially those patients with muscle pain and limb weakness, concomitant pulmonary signs and symptoms, Raynaud phenomenon, and arthritis

Testing for antibodies to Jo 1 is **not useful** in patients with a negative test for antinuclear antibodies

Testing Algorithm

For more information see Connective Tissue Disease Cascade.

Special Instructions

- Connective Tissue Disease Cascade

Method Name

Multiplex Flow Immunoassay

NY State Available

Yes

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.

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	
	Frozen	21 days	

Clinical & Interpretive

Clinical Information

Jo 1 (histidyl tRNA synthetase) is a member of the amino acyl-tRNA synthetase family of enzymes found in all nucleated cells. Jo 1 antibodies in patients with polymyositis bind to conformational epitopes of the enzyme protein and inhibit its catalytic activity in vitro.(1)

Jo 1 antibodies are a marker for the disease polymyositis, and occur most commonly in myositis patients who also have interstitial lung disease. The antibodies occur in up to 50% of patients with interstitial pulmonary fibrosis and symmetrical polyarthritis.(2)

For more information see Connective Tissue Disease Cascade.

Reference Values

<1.0 U (negative)
> or =1.0 U (positive)
Reference values apply to all ages.

Interpretation

A positive result for Jo 1 antibodies is consistent with the diagnosis of polymyositis and suggests an increased risk of pulmonary involvement with fibrosis in such patients.

Cautions

A negative test for Jo 1 antibodies does not exclude the diagnosis of polymyositis or dermatomyositis.

Clinical Reference

1. Targoff I: Autoantibodies in polymyositis. Rheum Dis Clin North Am 1992;18:455
2. Leff R, Sherman J, Plotz P: Chapter 65: Inflammatory muscle diseases. In Clinical Immunology Principles and Practice, Second edition. Edited by R Rich, T Fleisher, W Shearer, B Kotzin, et al. St. Louis, Mosby-Year Book, 2001, pp 65.1-65.8

Performance

Method Description

Recombinant Jo 1 antigen is coupled covalently to polystyrene microspheres, which are impregnated with fluorescent

dyes to create a unique fluorescent signature. Jo 1 antibodies, if present in diluted serum, bind to the Jo 1 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-Jo 1 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 Jo 1 microspheres to a 4-point calibration curve.(Package insert: Bioplex 2200 ANA Screen. Bio-Rad Laboratories, Hercules, CA 03/2012)

PDF Report
No

Day(s) Performed
Monday through Saturday

Report Available
1 to 3 days

Specimen Retention Time
14 days

Performing Laboratory Location
Rochester

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 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
JO1	Jo 1 Ab, IgG, S	33571-1

Result ID	Test Result Name	Result LOINC® Value

Test Definition: JO1

Jo 1 Antibodies, IgG, Serum

JO1	Jo 1 Ab, IgG, S	33571-1