

Myositis Panel



Myositis is a disease characterized by inflammation of the muscles and is often associated with severe muscle weakness. The most common forms of myositis are polymyositis and dermatomyositis. Because myositis is a systemic autoimmune disease, it can affect other organ systems including the skin, joints, lungs, heart and gastrointestinal system.

The cause of myositis is not known. Patients with myositis may experience damage and destruction of specific muscles, ranging from muscles in the arms and legs to those of the respiratory and gastrointestinal system. Damage to blood vessels, joints, lungs and the heart may also occur. The most obvious symptoms of myositis are progressive proximal muscle weakness and pain. Interstitial lung disease is often observed and maybe the first or only sign of the underlying systemic condition. Other symptoms can include:

- Rashes
- Fatigue
- Weight loss
- Low-grade fevers
- Arthritis
- Difficulty swallowing
- Heartburn
- Cough
- Shortness of breath

Test Information

Test Name: Myositis Panel (Antibodies Against Myostis Associated Antigens (IgG))

Test Code: MYOSP

Method: Immunoblot

Reference Range: See table on next page.

Specimen Requirement: Acceptable sample types include human serum, EDTA plasma, heparin plasma, or citrate plasma. Collect in plain red top or SST tube. Allow sample to clot at room temperature for 20 to 60 minutes. Centrifuge ASAP to separate serum from cells and aliquot cell-free serum into a labeled polypropylene or similar plastic tube. Preferred volume is 0.5 mL; 0.1 mL minimum for pediatric patients.

Transport Requirements: Send serum Priority Overnight via FedEx in a well-insulated container frozen on dry ice.

CPT code: 84182 x 11

Myositis can be difficult to diagnose and requires a thorough history and physical, specific muscle strength testing and electromyogram, muscle biopsy, and laboratory tests. Early recognition of the disease is essential to allow for prompt treatment before irreversible organ damage occurs. Patients with myositis may need medication and physical therapy for many years.

National Jewish Health Advanced Diagnostic Laboratories' Myositis Panel provides a quantitative *in vitro* assay for human antibodies present in serum and plasma of the IgG class to eleven different antigens:

- **Mi-2:** a recombinant Mi-2 protein (nuclear helicase)
- **Ku:** a recombinant Ku protein
- **PM-Scl100:** a recombinant 75kDa PM-Scl protein
- **PM-Scl75:** a recombinant 100kDa PM-Scl protein
- **Jo-1:** a native Jo-1 antigen (histidyl-tRNA synthetase)
- **SRP:** a recombinant SRP protein (54kDa, signal recognition particle)
- **PL-7:** a recombinant (threonyl-tRNA synthetase)
- **PL-12:** a recombinant PL-12 protein (alanyl-tRNA synthetase)
- **EJ:** a recombinant EJ protein (glycyl-tRNA synthetase)
- **OJ:** a recombinant OJ protein (isoleucyl-tRNA)
- **Ro-52:** a recombinant Ro-52 protein (52kDa)

Mi-2, SRP and Jo-1 are most common and may serve as markers for myositis. The presence of myositis-specific autoantibodies helps predict clinical indications. Additional descriptions of myositis-specific antibodies, myositis-associated antibodies and their clinical associations were adapted from information provided by RDL Reference Laboratory:

Antibody	Myositis-Specific Antibodies	Myositis-Associated Antibodies	Poly-myositis	Dermato-myositis	Anti-Synthetase Syndrome	Overlap Syndrome	Myositis (Juvenile)	Interstitial Lung Disease	Arthritis
Mi-2 *	4-14%	N/A	Rare	Common	N/A	Common	10%	Rare	Occasionally
Ku	N/A	% Unknown	Not Described	Not Described	N/A	Common	Occasionally	Not Described	% Unknown
PM/Scl	N/A	8%	Uncommon	Uncommon	N/A	Common	Occasionally	Rare	Common
Jo-1 *	20%	N/A	Common	Occasionally	Marker	Common	Reported	Common	Common
SRP *	4%	N/A	Common	Occasionally	N/A	Not Described	Uncommon	Common	Common
PL-7	1-4%	N/A	Occasionally	Common	Marker	Common	Reported	Common	Common
PL-12	1-4%	N/A	Occasionally	Common	Marker	Common	Reported	Common	Common
EJ	1-4%	N/A	Occasionally	Common	Marker	Common	Reported	Common	Common
OJ	1-4%	N/A	Occasionally	Common	Marker	Common	Reported	Common	Common

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References:

1. Dellaripa PF, Fischer A, and Flaherty KR, *Pulmonary Manifestations of Rheumatic Disease, A Comprehensive Guide*, (New York: Springer, 2014), 49, 53
2. West SG, *Rheumatology Secrets*, (New York: Elsevier, 2015), 161-162
3. Miller ML, Vleugels RA, "Clinical manifestations of dermatomyositis and polymyositis in adults", UpToDate, 2015