
Lab Dept: Serology

Test Name: MULTIPLE SCLEROSIS (MS) PROFILE

General Information

Lab Order Codes: MSPR

Synonyms: MS Profile

CPT Codes: 82040 - Albumin, serum
82042 - Albumin, spinal fluid
82784 x2 - IgG, serum and spinal fluid
83916 - Oligoclonal band, spinal fluid
83916 - Oligoclonal band, serum, if appropriate

Test Includes: CSF bands, Serum bands, CSF Oligoclonal bands interpretation, CSF IgG Index, Serum IgG. Testing requires both serum and cerebral spinal fluid.

Logistics

Test Indications: Diagnosing MS, especially helpful in patients with equivocal clinical or radiological findings.

Multiple Sclerosis (MS) is a chronic inflammatory demyelinating disease characterized by visual, motor, and sensory disturbances. The diagnosis of MS is dependent on clinical, radiological and laboratory findings. The detection of increased intrathecal immunoglobulin (Ig) synthesis is the basis for current diagnostic laboratory tests for MS.

Lab Testing Sections: Serology - Sendouts

Referred to: Mayo Medical Laboratories (MML Test#:MSP2)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 3 days

Special Instructions: Both blood and spinal fluid need to be collected.

Specimen

Specimen Type: Blood and spinal fluid (CSF)

Container:	Blood: Red top tube Spinal Fluid: CSF conical tube
Draw Volume:	Blood: 3 mL (Minimum: 1.5 mL) Spinal Fluid: 1 mL (Minimum: 0.5 mL)
Processed Volume:	Serum: 1 mL (Minimum: 0.5 mL) Spinal Fluid: 1 mL (Minimum: 0.5 mL)
Collection:	Blood: Routine venipuncture Spinal Fluid: Routine CSF collection
Special Processing:	Lab Staff: Blood: Centrifuge specimen and aliquot into a round bottom, screw-capped plastic vial. Label specimen as serum. Store and ship at refrigerated temperatures. Spinal Fluid: Aliquot spinal fluid into a round bottom, screw-capped plastic vial. Label as spinal fluid. Store and ship at refrigerated temperatures.
Patient Preparation:	None
Sample Rejection:	Mislabeled or unlabeled specimens

Interpretive

Reference Range:	Test Name:	Result:
	Oligoclonal bands	<4 bands
	CSF IgG Index	≤0.85
	CSF IgG	≤8.1 mg/dL
	CSF albumin	≤27.0 mg/dL
	Serum IgG	600 - 1500 mg/dL
	Serum albumin	3200 - 4800 mg/dL
	CSF IgG/albumin	≤0.21
	Serum IgG/albumin	≤0.4
	CSF IgG synthesis rate	≤12 mg/24 h

Interpretation: Oligoclonal bands ≥ 4 CSF -specific bands are consistent with MS. CSF IgG index: >0.85 is consistent with MS. Abnormal CSF IgG indexes and oligoclonal band patterns have been reported in 70-80% of MS patients. If both tests are performed, at least 1 of the results has been reported to be positive in $>90\%$ of MS patients. A newer methodology for oligoclonal bands, isoelectric focusing (IEF) has been reported to be more sensitive (90-95%).

Critical Values:

N/A

Limitations:

Increased intrathecal Ig synthesis may occur in other inflammatory central nervous system (CNS) diseases and therefore, these assays are not specific for MS. The presence of oligoclonal bands or elevated CSF Ig index is unrelated to disease activity.

Methodology:

Isoelectric focusing with IgG Immunoblot Detection; Nephelometry

References:

[Mayo Medical Laboratories](#) July 2015