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MAYO CLINIC LABORATORIES

# Test Definition: ALBSF

Albumin, Spinal Fluid

## Overview

### Useful For
Assessment of blood-brain barrier permeability

### Highlights
This test enables quantification of albumin concentration in spinal fluid by nephelometry. A standalone spinal fluid albumin concentration has limited clinical utility; it may provide a general assessment of intactness of the blood-brain barrier.

### Method Name
Nephelometry

### NY State Available
Yes

## Specimen

### Specimen Type
CSF

### Ordering Guidance
The SFIG / Cerebrospinal Fluid IgG Index Profile, Serum and Spinal Fluid, in conjunction with OLIG / Oligoclonal Banding, Serum and Spinal Fluid is the recommended test for evaluation of multiple sclerosis.

### Specimen Required
**Specimen Type:** Spinal fluid (CSF)
**Container/Tube:** Sterile vial
**Specimen Volume:** 1 mL
**Collection Instructions:**
1. Submit CSF from collection vial number 2 (preferred, not required).
2. Label specimen as CSF.

### Specimen Minimum Volume
0.5 mL

### Reject Due To

| | |
|---|---|
| Gross hemolysis | OK |

### Specimen Stability Information

| Specimen Type | Temperature | Time | Special Container |
|---|---|---|---|
| CSF | Refrigerated (preferred) | 28 days | |
| | Ambient | 14 days | |
| | Frozen | 28 days | |

## Clinical & Interpretive

### Clinical Information

Elevated albumin concentration in spinal fluid may serve as an indicator of the permeability status of the blood-brain barrier. Comparison to a serum albumin concentration is recommended.

### Reference Values

0.0-27.0 mg/dL

### Interpretation

Elevated albumin concentrations may be observed in patients with a compromised blood-brain barrier.

### Cautions

Cerebrospinal fluid albumin has limited utility as a standalone test.

### Clinical Reference

1. Schliep G, Felgenhauer K. Serum-CSF protein gradients, the blood-GSF barrier and the local immune response. J Neurol. 1978;218(2):77-96
2. Rifai N, Horvath AR, Wittwer CT, eds. Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 6th ed. Elsevier; 2018

## Performance

### Method Description

The cerebrospinal fluid albumin is determined by immunonephelometry on a Siemens Nephelometer II. In this assay, the light scattered by the antigen-antibody complexes are measured. The intensity of the measured scattered light is proportional to the amount of antigen-antibody complexes in the sample under certain conditions. If the antibody volume is kept constant, the signal behaves proportionally to the antigen volume. A reference curve is generated by a standard with a known antigen content on which the scattered light signals of the samples can be evaluated and calculated as an antigen concentration.

Antigen-antibody complexes are formed when a sample containing antigen and the corresponding antiserum are put into a cuvette. A light beam is generated with a light emitting diode, which is transmitted through the cuvette. The light is scattered by the immuno-complexes that are present. Antigen and antibody are mixed in the initial measurement, but no complex is yet formed.

An antigen-antibody complex is formed in the final measurement. The result is calculated by subtracting the value of the final measurement from the initial measurement. The distribution of intensity of the scattered light depends on the ratio

of the particle size of the antigen-antibody complexes to the radiated wavelength.(Instruction manual: Siemens Nephelometer II. Siemens, Inc; Version 2.4, 07/2019; Addendum to the Instruction Manual 2.3, 08/2017)

### PDF Report
No

### Day(s) Performed
Monday through Friday

### Report Available
1 to 3 days

### Specimen Retention Time
2 weeks

### Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Superior Drive

## 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
82042

### LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---|---|---|
| ALBSF | Albumin, CSF | 1746-7 |

| Result ID | Test Result Name | Result LOINC® Value |
|---|---|---|
| ALBSF | Albumin, CSF | 1746-7 |