Test Definition: SFINC

Cerebrospinal Fluid (CSF) IgG Index, Spinal Fluid (Non-Orderable)

Overview

Useful For

Only orderable as part of a profile. For more information see SFIG / Cerebrospinal Fluid IgG Index Profile, Serum and Spinal Fluid.

Aiding in the diagnosis of multiple sclerosis and other central nervous system inflammatory conditions using cerebrospinal fluid specimens

Method Name

Only orderable as part of a profile. For more information see SFIG / Cerebrospinal Fluid IgG Index Profile, Serum and Spinal Fluid.

Nephelometry

NY State Available

Yes

Specimen

Specimen Type

CSF

Specimen Required

Only orderable as part of a profile. For more information see SFIG / Cerebrospinal Fluid IgG Index Profile, Serum and Spinal Fluid.

Specimen Type: Spinal fluid
Container/Tube: Sterile vial
Preferred: Collection vial number 2
Specimen Volume: 1 mL
Collection Instructions: Label specimen as SFINC.

Specimen Minimum Volume

0.5 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

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

Clinical & Interpretive

Clinical Information

Elevation of IgG in the cerebrospinal fluid (CSF) of patients with inflammatory diseases of the central nervous system (CNS), such as multiple sclerosis (MS), neurosyphilis, acute inflammatory polyradiculoneuropathy, and subacute sclerosing panencephalitis, may be due to local (intrathecal) synthesis of IgG. Elevations of CSF IgG or the CSF/serum IgG ratio may also occur as a result of permeability of the blood brain barrier, and hence, a correction using albumin measurements in CSF and serum is appropriate.

The CSF index is the CSF IgG to CSF albumin ratio compared to the serum IgG to serum albumin ratio. The CSF index is, therefore, an indicator of the relative amount of CSF IgG compared to serum. Any increase in the index reflects IgG production in the CNS. The IgG synthesis rate is a mathematical manipulation of the CSF index data and can also be used as a marker for CNS inflammatory diseases. The test is commonly ordered with oligoclonal banding or immunoglobulin kappa free light chains in CSF to aid in the diagnosis of demyelinating conditions.

Reference Values

Only orderable as part of a profile. For more information see SFIG / Cerebrospinal Fluid IgG Index Profile, Serum and Spinal Fluid.

CSF index: 0.00-0.70
CSF IgG: 0.0-8.1 mg/dL
CSF albumin: 0.0-27.0 mg/dL
CSF IgG/albumin: 0.00-0.21
Reference values have not been established for patients younger than 18 years.

CSF IgG synthesis rate: 0-12 mg/24 h

Interpretation

Cerebrospinal fluid (CSF) IgG synthesis rate indicates the rate of increase in the daily CSF production of IgG in milligrams per day. A result greater than 12 mg/24 hours is elevated.

A CSF IgG index greater than 0.70 is elevated and indicative of increased synthesis of IgG.

Cautions

The cerebrospinal fluid IgG index can be elevated in other inflammatory demyelinating diseases such as neurosyphilis, acute inflammatory polyradiculoneuropathy, and subacute sclerosing panencephalitis.

Clinical Reference

1. Tourtellotte WW, Walsh MJ, Baumhefner RW, et al. The current status of multiple sclerosis intra-blood-brain-barrier IgG synthesis. Ann NY Acad Sci. 1984;436:52-67
2. Bloomer LC, Bray PF. Relative value of three laboratory methods in the diagnosis of multiple sclerosis. Clin Chem. 1981;27:2011-2013
3. Hische EA, van der Helm HJ. Rate of synthesis of IgG within the blood-brain barrier and the IgG index compared in the diagnosis of multiple sclerosis. Clin Chem. 1987;33:113-114
4. Thompson AJ, Banwell BL, Barkhof F, et al. Diagnosis of multiple sclerosis: 2017 revisions of the McDonald criteria. Lancet Neurol. 2018;17(2):162-73. doi:10.1016/S1474-4422(17)30470-2
5. Gurtner KM, Shosha E, Bryant SC, et al. CSF free light chain identification of demyelinating disease: comparison with oligoclonal banding and other CSF indexes. Clin Chem Lab Med. 2018;56(7):1071-1080. doi:10.1515/cclm-2017-0901
6. Rifai N, Horvath AR, Wittwer CT, eds: Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 6th ed. Elsevier; 2018

Performance

Method Description

Cerebrospinal fluid (CSF) IgG and albumin are determined by immunonephelometry. The CSF IgG, albumin, IgG/albumin ratio, IgG index and synthesis rate are calculated and reported.(Instruction manual: Siemens Nephelometer II Operations. Siemens, Inc; 07/2019)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

Same day/1 to 2 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
82784

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
SFINC	IgG Index, CSF	No LOINC Needed

Result ID	Test Result Name	Result LOINC® Value
INDEX	IgG Index, CSF	14117-6
IGG_C	IgG, CSF	2464-6
ALB_C	Albumin, CSF	1746-7
AIGAC	IgG/Albumin, CSF	2470-3
SRATE	Synthesis Rate, CSF	14116-8