MAYO CLINIC LABORATORIES

Test Definition: STLPC

St. Louis Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid

Overview

Useful For
Aiding the diagnosis of St. Louis encephalitis using spinal fluid specimens

Testing Algorithm
For more information see Mosquito-borne Disease Laboratory Testing .

Special Instructions
- Mosquito-borne Disease Laboratory Testing

Method Name
Immunofluorescence Assay (IFA)

NY State Available
No

Specimen

Specimen Type
CSF

Ordering Guidance
This assay detects only St. Louis virus. For a complete arbovirus panel, order ABOPC / Arbovirus Antibody Panel, IgG and IgM, Spinal Fluid.

New York State Clients: This test is not available for specimens originating in New York.

Specimen Required
Collection Container/Tube: Sterile vial
Specimen Volume: 0.8 mL
Collection Instructions: Submit specimen from collection vial 2 (preferred), 3, or 4.

Forms
If not ordering electronically, complete, print, and send Infectious Disease Serology Test Request (T916) with the specimen.

Specimen Minimum Volume
0.7 mL

Reject Due To

Gross hemolysis	OK
Gross lipemia	OK

Specimen Stability Information

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

Clinical & Interpretive

Clinical Information

Since 1933, outbreaks of St. Louis encephalitis (SLE) have involved the western United States, Texas, the Ohio-Mississippi Valley, and Florida. The vector of transmission is the mosquito. Peak incidence occurs in summer and early autumn. Disease onset is characterized by generalized malaise, fever, chills, headache, drowsiness, nausea, and sore throat or cough followed in 1 to 4 days by meningeal and neurologic signs. The severity of illness increases with advancing age; persons over 60 years have the highest frequency of encephalitis. Symptoms of irritability, sleeplessness, depression, memory loss, and headaches can last up to 3 years.

Infections with arboviruses, including SLE, can occur at any age. The age distribution depends on the degree of exposure to the particular transmitting arthropod relating to age, sex, and occupational, vocational, and recreational habits of the individuals. Once humans have been infected, the severity of the host response may be influenced by age. SLE tends to produce the most severe clinical infections in older persons.

Reference Values

IgG: <1:1
IgM: <1:1
Reference values apply to all ages.

Interpretation

Detection of organism-specific antibodies in the spinal fluid (CSF) may suggest central nervous system (CNS) infection. However, these results are unable to distinguish between intrathecal antibodies and serum antibodies introduced into the CSF at the time of lumbar puncture or from a breakdown in the blood-brain barrier. The results should be interpreted with other laboratory and clinical data prior to a diagnosis of CNS infection.

Cautions

All results must be correlated with clinical history and other data available to the attending physician.

False-positive results may be caused by breakdown of the blood-brain barrier or by the introduction of blood into the spinal fluid at collection.

Since cross-reactivity with dengue fever virus does occur with St. Louis encephalitis antigens, and, therefore, cannot be differentiated further, the specific virus responsible for positive results may be deduced by the travel history of the patient, along with available medical and epidemiological data, unless the virus can be isolated.

Clinical Reference

1. Diaz A, Coffey LL, Burkett-Cadena N, et al. Reemergence of St. Louis Encephalitis Virus in the Americas. Emerg Infect Dis. 2018;24(12):2150-2157. doi:10.3201/eid2412.180372
2. Piantadosi A, Kanjilal S. Diagnostic approach for arboviral infections in the United States. J Clin Microbiol. 2020;58(12):e01926-19. doi:10.1128/JCM.01926-19

Performance

Method Description

The indirect immunofluorescent antibody (IFA) assay is a 2-stage “sandwich" procedure. In the first stage, the patient spinal fluid (CSF) is diluted in Pretreatment Diluent for IgM and phosphate buffered saline (PBS) for IgG, added to appropriate slide wells in contact with the substrate, and incubated. Following incubation, the slide is washed in PBS which removes unbound CSF antibodies. In the second stage, each antigen well is overlaid with fluorescein-labeled antibody to IgM and IgG. The slide is incubated allowing antigen-antibody complexes to react with the fluorescein-labeled anti-IgM and anti-IgG. After the slide is washed, dried, and mounted, it is examined using fluorescence microscopy. Positive reactions appear as cells exhibiting bright apple-green cytoplasmic fluorescence against a background of red negative control cells. Semi-quantitative endpoint titers are obtained by testing serial dilutions of positive specimens.(Package inserts: Arbovirus IFA IgM and Arbovirus IFA IgG Instructions for Use. Focus Diagnostics; Rev. 03, 02/17/2023)

PDF Report

No

Day(s) Performed

May through October: Monday through Friday
November through April: Monday, Wednesday, Friday

Report Available

Same day/1 day to 4 days

Specimen Retention Time

2 weeks

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Superior Drive

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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 was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information

86653 x 2

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
STLPC	St. Louis Enceph Ab Panel, CSF	96254-8

Result ID	Test Result Name	Result LOINC® Value
26367	St. Louis Enceph Ab, IgG, CSF	21509-5
26368	St. Louis Enceph Ab, IgM, CSF	21510-3