### General Information

**Lab Order Codes:** ARBSF  
**Synonyms:** Arbovirus Ab, CSF  
**CPT Codes:**  
- 86651 x2 – Antibody; encephalitis, California  
- 86652 x2 – Antibody; encephalitis, Eastern equine  
- 86653 x2 – Antibody; encephalitis, St. Louis equine  
- 86654 x2 – Antibody; encephalitis, Western equine  
**Test Includes:** IgM and IgG antibody determinations for 4 different encephalitis strains in spinal fluid.

### Logistics

**Test Indications:** Useful for detecting antibodies to Eastern equine encephalitis virus, LaCrosse/California encephalitis virus, St. Louis equine encephalitis virus, and Western equine encephalitis, aiding a diagnosis arboviral encephalitis.  
**Lab Testing Sections:** Serology - Sendouts  
**Referred to:** Mayo Medical Laboratories (MML Test: 83897/ABOPC)  
**Phone Numbers:** MIN Lab: 612-813-6280  
STP Lab: 651-220-6550  
**Test Availability:** Daily, 24 hours  
**Turnaround Time:** 1 - 4 days, performed Monday - Friday  
**Special Instructions:** When this test is ordered, serum and spinal fluid are recommended. See Arbovirus Antibody for blood collection and other test information.

### Specimen

**Specimen Type:** CSF  
**Container:** CSF conical tube  
**Draw Volume:** 0.5 mL (Minimum: 0.2 mL) spinal fluid
**Collection:** Routine CSF collection

**Special Processing:** Lab Staff: Aliquot 0.5 mL (Minimum: 0.2 mL) spinal fluid into a sterile screw-capped, round bottom, plastic vial. Store and ship at refrigerated temperatures.

**Patient Preparation:** None

**Sample Rejection:** Room temperature specimens; mislabeled or unlabeled specimens

**Interpretive**

<table>
<thead>
<tr>
<th>Reference Range:</th>
<th>Reference ranges apply to all ages.</th>
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<tbody>
<tr>
<td><strong>California (LaCrosse) Encephalitis Antibody</strong></td>
<td></td>
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<tr>
<td>IgG:</td>
<td>&lt;1:10</td>
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<tr>
<td>IgM:</td>
<td>&lt;1:10</td>
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<tr>
<td><strong>Eastern Equine Encephalitis Antibody</strong></td>
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<tr>
<td>IgG:</td>
<td>&lt;1:10</td>
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<tr>
<td>IgM:</td>
<td>&lt;1:10</td>
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<tr>
<td><strong>St. Louis Encephalitis Antibody</strong></td>
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<tr>
<td>IgG:</td>
<td>&lt;1:10</td>
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<tr>
<td>IgM:</td>
<td>&lt;1:10</td>
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<tr>
<td><strong>Western Equine Encephalitis</strong></td>
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<tr>
<td>IgG:</td>
<td>&lt;1:10</td>
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<tr>
<td>IgM:</td>
<td>&lt;1:10</td>
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**Critical Values:** N/A
**Limitations:**
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 blood-brain barrier, or by the introduction of blood into the CSF 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.

Eastern Equine Encephalitis and Western Equine Encephalitis viruses show some cross-reactivity; however, antibody responses to the infecting virus is typically at least 8-fold higher.

**Methodology:**
Immunofluorescence Assay (IFA)

**References:**
[Mayo Medical Laboratories](https://www.mayoclinic.org) July 2013