Summary

Overview

Useful For
Aiding in the diagnosis of Eastern equine encephalitis

Testing Algorithm
See Mosquito-borne Disease Laboratory Testing in Special Instructions.

Special Instructions
- Mosquito-borne Disease Laboratory Testing

Method Name
Immunofluorescence Assay (IFA)

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required
Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Specimen Volume: 0.5 mL

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Specimen Minimum Volume
0.15 mL

Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
</tbody>
</table>

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
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</table>
Clinical and Interpretive

Clinical Information

Eastern equine encephalitis (EEE) is within the alphavirus group. It is a low prevalence cause of human disease in the Eastern and Gulf Coast states. EEE is maintained by a cycle of mosquito/wild bird transmission, peaking in the summer and early fall, when man may become an adventitious host. The most common clinically apparent manifestation is a mild undifferentiated febrile illness, usually with headache.

Central nervous system involvement is demonstrated in only a minority of infected individuals, it is more abrupt and more severe with EEE than other arboviruses, with children being more susceptible to severe disease. Fatality rates are approximately 70% for EEE.

Reference Values

IgG: <1:10

IgM: <1:10

Reference values apply to all ages.

Interpretation

In patients infected with this virus, IgG antibody is generally detectable within 1 to 3 weeks of onset, peaking within 1 to 2 months, and declining slowly thereafter.

IgM class antibody is also reliably detected within 1 to 3 weeks of onset, peaking and rapidly declining within 3 months.

Single serum specimen IgG > or =1:10 indicates exposure to the virus.

Results from a single serum specimen can differentiate early (acute) infection from past infection with immunity if IgM is positive (suggests acute infection).

A 4-fold or greater rise in IgG antibody titer in acute and convalescent sera indicate recent infection.

In the United States it is unusual for any patient to show positive reactions to more than 1 of the arboviral antigens, although Western equine encephalitis and Eastern equine encephalitis antigens will show a noticeable cross-reactivity.

Infections can occur at any age. The age distribution depends on the degree of exposure to the particular transmitting arthropod relating to age and sex, as well as the occupational, vocational, and recreational habits of the individuals. Once humans have been infected, the severity of the host response may be influenced by age.

Cautions

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

Specimens drawn within the first 2 weeks after onset are variably negative for IgG antibody and should not be used to exclude the diagnosis of arboviral disease. If arboviral infection is suspected, a second specimen should be drawn and tested 10 to 21 days later.

Since cross-reactivity with dengue fever virus does occur with St. Louis encephalitis antigen and, therefore, cannot be differentiated further. The specific virus responsible for such a titer 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 response to the infecting virus is typically at least 8-fold higher.

Usually, when an infection with an arbovirus is suspected, it is too late to isolate the virus or draw serum specimens to detect a rise of antibody titer.

**Clinical Reference**


**Performance**

**Method Description**


**PDF Report**

No

**Day(s) and Time(s) Test Performed**

May through October: Monday through Friday; 9 a.m.

November through April: Monday, Wednesday, Friday; 9 a.m.

**Analytic Time**

Same day/1 day

**Maximum Laboratory Time**

4 days

**Specimen Retention Time**

2 weeks

**Performing Laboratory Location**

Rochester
### Fees and 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 Regional Manager. For assistance, contact [Customer Service](#).

**Test Classification**

This test has been cleared or approved by the U.S. 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**

86652 x 2

**LOINC® Information**

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<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>EEEP</td>
<td>East Equine Enceph Ab, IgG and IgM, S</td>
<td>69034-7</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
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<td>East Equine Enceph Ab, IgG, S</td>
<td>10896-9</td>
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<tr>
<td>83355</td>
<td>East Equine Enceph Ab, IgM, S</td>
<td>10898-5</td>
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