Overview

Useful For
Monitoring serum concentration during oxcarbazepine therapy
Assessing compliance
Assessing potential toxicity

Method Name
High-Turbulence Liquid Chromatography Mass Spectrometry (HTLC-MS/MS)

NY State Available
Yes

Specimen

Specimen Type
Serum Red

Specimen Required
Container/Tube:

Preferred: Red top

Specimen Volume: 1 mL

Collection Instructions:
1. Draw specimen immediately before next scheduled dose.
2. Spin down within 2 hours of draw.

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- Neurology Specialty Testing Client Test Request (T732)
- Therapeutics Test Request (T831)

Specimen Minimum Volume
0.5 mL

Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>OK</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>
**Test Definition: OMHC**

Oxcarbazepine Metabolite (MHC), S

---

**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 Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

---

**Clinical and Interpretive**

**Clinical Information**

Oxcarbazepine (OCBZ) is approved as monotherapy and adjunctive therapy for partial seizures with and without secondary generalized seizures in adults and as adjunctive therapy for partial seizures in children. In humans, OCBZ is a prodrug that is almost immediately and completely metabolized to 10-hydroxy-10,11-dihydrocarbamazepine, known as monohydroxycarbamazepine (MHC), an active metabolite that is responsible for OCBZ's therapeutic effect. The elimination half-life is 1 to 2.5 hours for OCBZ and 8 to 10 hours for MHC. The therapeutic range (3–35 mcg/mL) is based on concentrations of the metabolite, not the parent drug; this assay measures the metabolite only.

In clinical practice, the OCBZ dosage should be individually adjusted for each patient to achieve the desired therapeutic response. Toxicity associated with OCBZ includes hyponatremia, dizziness, somnolence, diplopia, fatigue, nausea, vomiting, ataxia, abnormal vision, abdominal pain, tremor, dyspepsia, and abnormal gait. These toxicities may be observed when blood concentrations are in the therapeutic range.

**Reference Values**

Oxcarbazepine metabolite: 3-35 mcg/mL

**Interpretation**

Therapeutic ranges are based on specimens drawn at trough (ie, immediately before the next dose). Most individuals display optimal response to oxcarbazepine therapy when serum levels of the metabolite (measured in this assay) are between 3 and 35 mcg/mL. Some individuals may respond well outside of this range, or may display toxicity within the therapeutic range. Thus, interpretation should include clinical evaluation.

**Cautions**

Toxic levels have not been well established.

This test cannot be performed on whole blood. Serum must be separated from cells within 2 hours of draw.

**Clinical Reference**


---

**Performance**

Document generated July 10, 2020 at 6:35pm CDT
Method Description
High-turbulence liquid chromatography-tandem mass spectrometry,(Unpublished Mayo method)

PDF Report
No

Day(s) and Time(s) Test Performed
Tuesday through Friday; 12 a.m.
Saturday; 1 p.m.

Analytic Time
Same day/1 day

Maximum Laboratory Time
3 days

Specimen Retention Time
14 days

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

CPT Code Information
80183

LOINC® Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMHC</td>
<td>Oxcarbazepine Metabolite (MHC), S</td>
<td>31019-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81030</td>
<td>Oxcarbazepine Metabolite (MHC), S</td>
<td>31019-3</td>
</tr>
</tbody>
</table>

Document generated July 10, 2020 at 6:35pm CDT