Overview

Useful For
Assisting in the diagnosis of hepatic coma

Investigating and monitoring treatment for inborn errors of metabolism

Evaluating patients with advanced liver disease

Method Name
Photometric, Bromophenol Blue (VITROS Dry Slide)

NY State Available
Yes

Specimen

Specimen Type
Plasma EDTA

Shipping Instructions
Plasma must be separated from cells and frozen within 2 hours of collection. Freeze plasma on dry ice or in a freezer (-60 to -80 degrees C) for long-term storage or shipment.

Specimen Required
Collection Container/Tube: Lavender top (EDTA)

Submission Container/Tube: Plain, plastic screw-top tube

Specimen Volume: > or =0.5 mL

Collection Instructions:
1. Specimens should be put on ice immediately after collection.
2. Centrifuge at refrigerated temperature (4 degrees C).
4. Freeze plasma within 2 hours of draw.

Specimen Minimum Volume
0.50 mL

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.
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>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>2 hours</td>
<td></td>
</tr>
</tbody>
</table>

Clinical and Interpretive

Clinical Information

Ammonia is a waste product of protein catabolism; it is potentially toxic to the central nervous system. Increased plasma ammonia may be indicative of hepatic encephalopathy, hepatic coma in terminal stages of liver cirrhosis, hepatic failure, acute and subacute liver necrosis, and Reye’s syndrome. Hyperammonemia may also be found with increasing dietary protein intake.

The major cause of hyperammonemia in infants includes inherited deficiencies of urea cycle enzymes, inherited metabolic disorders of organic acids and the dibasic amino acids lysine and ornithine, and severe liver disease.

Reference Values

< or =30 mcmol/L

Interpretation

Plasma ammonia concentrations do not correlate well with the degree of hepatic encephalopathy.

Elevated ammonia concentration may also be found with increased dietary protein intake.

Cautions

Specimens should be put on ice immediately after collection, centrifuged at refrigerated temperature, and plasma kept on ice until analyzed.

Separate from cells within 2 hours.

Freeze specimen on dry ice or freezer (-60 to -80 degrees C) for long-term storage or shipment.

EDTA plasma is the specimen of choice; serum may not be used.

Clinical Reference


Performance

Method Description

Patient specimen is deposited on the slide where the spreading layer promotes the uniform distribution of the
specimen. Water and nonproteinaceous components travel to the underlying buffered reagent layer, and the ammonia in the sample then diffuses through the semipermeable membrane to react with the ammonia indicator in the second reagent layer. The semipermeable membrane allows only the ammonia to pass and prevents buffer or hydroxyl ions from reaching the indicator layer where they would react with the indicator. After a fixed incubation period, the reflection density of the dye is measured using the white background of the spreading layer as a diffuse reflector. (Package insert: VITROS Chemistry Products Ammonia Instructions for Use, Version 7.0 Ortho-Clinical Diagnostics, Inc. Rochester, NY 14626, 2012)

PDF Report
No

Day(s) and Time(s) Test Performed
Monday through Sunday; Continuously

Analytic Time
Same day/1 day

Maximum Laboratory Time
1 day

Specimen Retention Time
1 day

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
82140

LOINC® Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH3V</td>
<td>Ammonia, P</td>
<td>16362-6</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>NH3V</td>
<td>Ammonia, P</td>
<td>16362-6</td>
</tr>
</tbody>
</table>