# Test Definition: NH3V

Ammonia, P

## 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).

3. Aliquot plasma into plastic screw-top tube. Keep on ice.

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

| Specimen Type | Temperature | Time | Special Container |
|---|---|---|---|
| Plasma EDTA | Frozen (preferred) | 7 days | |
| | Refrigerated | 2 hours | |

## 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 ReyeÃ¢â‚¬â„¢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

Tietz Textbook of Clinical Chemistry. Edited by CA Burtis, ER Ashwood. Philadelphia, WB Saunders Company, 2012

## 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, approved or is exempt 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

| Test ID | Test Order Name | Order LOINC Value |
|---|---|---|
| NH3V | Ammonia, P | 16362-6 |

| Result ID | Test Result Name | Result LOINC Value |
|---|---|---|
| NH3V | Ammonia, P | 16362-6 |