



Laboratory Service Manual

Lab Dept: Other Fluids

Test Name: NEUROTRANSMITTERS METABOLITES, CSF

General Information

Lab Order Codes: CNTM

Synonyms: Amines; 5-HIAA; HVA; 3-O-MD; 3-Ortho-Methyl Dopa; Neurotransmitter Metabolites

CPT Codes: 82492 – Chromatography, quantitative, column; multiple analytes, single stationary and mobile phase

Test Includes: CSF levels for: 5-HIAA reported in nmol/L, HVA reported in nmol/L, 3-O-MD reported in nmol/L.

Logistics

Test Indications: Recently, a cerebral folate deficiency syndrome has been described. The clinical picture is one of developmental delay/regression, cerebellar ataxia, with or without seizures, with or without autism. This disorder is treatable with folinic acid. If your patient fits the clinical picture we can measure 5-methyltetrahydrofolate in the CSF we already have if you wish to add on this test. Please see: Ramaekers VT, Blau N. Cerebral folate deficiency, Dev Med Child Neurol. 2004 Dec;46(12):843-51. Cerebral folate deficiency has also been described in mitochondrial disorders.

Lab Testing Sections: Anatomic Pathology - Sendouts

Referred to: Mayo Medical Laboratory (MML Test#: 91688) forward to Medical Neurogenetics, One Dunwoody Park, Suite 250, Atlanta, Georgia 30338

Phone Numbers:

Minneapolis: 612-813-6280

Saint Paul: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: Results within 3 weeks

Special Instructions: Call the laboratory for collection kit (Mayo Supply T657). Each sample kit consists 5 numbered tubes in a small plastic bag. One full set of tubes is required per patient collection (total volume 3.5 mL of spinal fluid).

Specimen



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- Specimen Type:** Cerebral Spinal Fluid (CSF)
- Container:** A Medical Neurogenetics collection kit is required for collection. Each kit contains 5 microcentrifuge tubes.
- Draw Volume:** 3.5 mL spinal fluid
- Processed Volume:** Same as Draw Volume
- Collection:** **Collection protocol**

CSF should be collected from the first drop into the tubes in the numbered order. Fill each tube to the marked line with the required volumes.

Tube 1:	0.5 mL
Tube 2:	0.5 mL
Tube 3:	1.0 mL (contains antioxidants necessary to protect the sample integrity)
Tube 4:	1.0 mL
Tube 5:	0.5 mL

- If samples are not blood contaminated, they should be placed on dry ice at bedside.
- If samples are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes, then frozen.

Store samples at –80 degrees Centigrade until they can be shipped.



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Special Processing:**Lab Staff:**

- If samples are blood contaminated, the tubes should immediately be centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tubes. Continue with step 1 below.

- If samples are NOT blood contaminated, continue with step 1 below.

1. Complete Medical Neurogenetics, LLC request for. Include test required, sample date, date of birth, current medications and relevant history.

2. Label tubes with patient name and ID number, leaving the tube number viewable.

3. Place samples inside a specimen transport bag and the Medical Neurogenetics, LLC request form inside the pouch of the transport bag.

4. Store samples at -80 degrees Centigrade until they can be shipped.

5. Ship samples frozen on Dry ice.

Patient Preparation:

None

Sample Rejection:

Hemolysis, Lipemia, Icteric, improper collection and handling, and improper labeling.

Interpretive**Reference Range:**

Age (year)	5HIAA (nmol/L)	HVA (nmol/L)	3-O-MD (nmol/L)
0 - 0.2	208 - 1159	337 - 1299	<300
0.2 - 0.5	179 - 711	450 - 1132	<300
0.5 - 2.0	129 - 520	294 - 1115	<300
2.0 - 5.0	74 - 345	233 - 928	<150
5.0 - 10	66 - 338	218 - 852	<100
10 - 15	67 - 189	167 - 563	<100
Adults	67 - 140	145 - 324	<100

Critical Values:

N/A

Limitations:

N/A



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Methodology: HPLC-Electrochemistry

References: [Mayo Medical Laboratories](#) January 2011
1-800-533-1710

[Medical Neurogenetics](#) January 2011
676-225-0222
Fax: 678-225-0212