
Lab Dept: Chemistry

Test Name: NEOPTERIN, SPINAL FLUID

General Information

Lab Order Codes: NEOP

Synonyms: Neopterin, CSF

CPT Codes: 82542 – Column chromatography, includes mass spectrophotometry, if performed, non-drug analytes not elsewhere specified, qualitative or quantitative, each specimen

Test Includes: CSF Neopterin level reported in nmol/L.

Logistics

Test Indications: Neopterin is a catabolic product of guanosine triphosphate (GTP) and the synthesis of tetrahydrobiopterin (BH4). It is predominantly produced by macrophages and measurement in cerebrospinal fluid provides information about activation of the cellular immune system. Increased neopterin production is found in, but not limited to: viral infections including HIV, bacterial infections, autoimmune disease and malignant tumor diseases. Changes in CSF neopterin may also occur in deficiency of the BH4 synthesis pathway.

Lab Testing Sections: Sendouts - Chemistry

Referred to: Medical Neurogenetics, 5424 Glenridge Drive NE, Atlanta, GA 30342

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Restricted collection, Monday-Friday ONLY

Turnaround Time: Results within 2 weeks

Special Instructions: Note: If other Neurochemistry tests are to be collected along with the Neopterin Level, contact the laboratory for a special collection kit. Otherwise, a conical CSF tube can be collected for this test alone. See [Neurochemistry for Neurotransmitter Diseases, CSF](#) for more information.

See [Collection](#) below. Do not collect on weekends or holidays. Send completed Medical Neurogenetics (MNG) Request form http://www.medicalneurogenetics.com/assets/dr/Neurochem_TestReq.pdf with the sample to the lab.

Specimen

Specimen Type:	CSF
Container:	Spinal fluid conical tube
Draw Volume:	1 mL (Minimum: 0.5 mL) spinal fluid
Processed Volume:	Same as Draw Volume
Collection:	Routine spinal fluid collection. Collect specimen on ice and send to the laboratory immediately .
Special Processing:	Lab Staff: <ul style="list-style-type: none">• If the sample is blood contaminated, the tube should be immediately centrifuged (prior to freezing) and the clear CSF transferred to new similarly labeled tube. Continue with step 1 below.• If the sample is NOT blood contaminated, continue with step 1 below. <ol style="list-style-type: none">1. Make sure you have a completed MNG request form.2. Label the patient specimen tube with appropriate patient identifiers.3. Place the specimen inside a specimen transport bag and the MNG request form inside the pouch of the transport bag.4. Store sample at -80 degrees C until it can be shipped.5. Ship sample frozen on dry ice.6. Send by overnight courier to arrive Monday – Saturday.
Patient Preparation:	None
Sample Rejection:	Hemolysis; lipemia, icteric; mislabeled or unlabeled specimens; improper collection and handling

Interpretive

Reference Range:

Age (years)	Neopterin Level (nmol/L)
0.0 – 0.2	7 – 65 nmol/L
0.2 – 0.5	7 – 65 nmol/L
0.5 – 2.0	7 – 65 nmol/L
2.0 – 5.0	7 – 65 nmol/L
5.0 – 10.0	7 – 40 nmol/L
10.0 – 15.0	8 – 33 nmol/L
Adults	8 – 28 nmol/L

Critical Values:

N/A

Methodology:

HPLC, electrochemistry and fluorescence

References:

[Medical Neurogenetics](#) December 2017
Phone: 676-225-0222 Fax: 678-597-5665

Updates:

11/5/14: Move from MML forward to Baylor to direct send to MNG. Note updated reference ranges and method.
12/14/2017: CPT update.