

**NEUROTRANSMITTER PROFILE 3
#91940**

EXPLANATION OF CHANGE: The following new orderable, referred to Medical Neurogenetics, LLC, is available immediately.

PREVIOUS ORDER CODE: Misc. Medical Neurogenetics #91403

SPECIMEN REQUIREMENTS:

Medical Neurogenetics, LLC collection kit required. Each collection kit contains 5 microcentrifuge tubes.

COLLECTION PROTOCOL

- 1) 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 not blood contaminated 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 until they can be shipped.
- 2) Complete Medical Neurogenetics, LLC request form, marking the following three tests: Neurotransmitter Metabolites, Tetrahydrobiopterin and 5 Methyltetrahydrofolate. Also include sample date, date of birth, current medications and relevant history.
- 3) Label tubes with patient name and ID number, leaving the tube number viewable.
- 4) Place samples inside a specimen transport bag and the Medical Neurogenetics, LLC request form inside the pouch of the transport bag.
- 5) Ship samples frozen on dry ice.

LIST FEE: \$535.00

CPT CODE: 82491; 82492/x2

DAY(S) SET UP:
Monday through Friday

ANALYTIC TIME:
14 days

QUESTIONS: Contact Mayo Medical Laboratories
Telephone: 800-533-1710



MAYO CLINIC
 Mayo Medical Laboratories

TEST DEFINITION

6/30/2009

CODE NAME

 91940 NEUROTRANSMITTER PROFILE 3

ORDER CODE	EFF DATE	TC	TITLE	CHECKING NORMALS	PRINT NORMALS (# CODED)	PERFORM SITE *
91940 (PROFILE)			NEUROTRANSMITTER PROFILE 3			
91941	6/25/2009		5-METHYLTETRAHYDROFOLATE			

UNIT CODE ALWAYS MESSAGE - [Z91940]
 NOTE: IF TEST RESULTS ARE INCONSISTENT WITH THE CLINICAL PRESENTATION, PLEASE CALL OUR LABORATORY TO DISCUSS THE CASE AND/OR SUBMIT A SECOND SAMPLE FOR CONFIRMATORY TESTING.

DISCLAIMER REQUIRED BY THE FDA FOR HIGH COMPLEXITY CLINICAL LABORATORIES: HPLC TESTING WAS DEVELOPED AND ITS PERFORMANCE CHARACTERISTICS DETERMINED BY MEDICAL NEUROGENETICS. THESE HPLC TESTS HAVE NOT BEEN CLEARED OR APPROVED BY THE U.S. FDA.

TEST PERFORMED BY: MEDICAL NEUROGENETICS, LLC
 ONE DUNWOODY PARK, SUITE 250
 ATLANTA, GA 30338

TRANSPORT TEMP : FROZEN\REFRIG NO\AMBIENT NO
 91941 5-METHYLTETRAHYDROFOLATE

UNITS: NMOL/L
 TEST CODE ALWAYS MESSAGE - [Z91941]
 Z91941 REFERENCE RANGES:

AGE (YEARS)	5MTHF (NMOL/L)
0-0.2	40-240
0.2-0.5	40-240
0.5-2.0	40-187
2.0-5.0	40-150
5.0-10	40-128
10-15	40-120
ADULTS	40-120

91942 6/25/2009 NEUROTRANSMITTER METABOLITES/AMINES

UNIT CODE ALWAYS MESSAGE - [Z91940]

NOTE: IF TEST RESULTS ARE INCONSISTENT WITH THE CLINICAL PRESENTATION, PLEASE CALL OUR LABORATORY TO DISCUSS THE CASE AND/OR SUBMIT A SECOND SAMPLE FOR CONFIRMATORY TESTING.

DISCLAIMER REQUIRED BY THE FDA FOR HIGH COMPLEXITY CLINICAL LABORATORIES: HPLC TESTING WAS DEVELOPED AND ITS PERFORMANCE CHARACTERISTICS DETERMINED BY MEDICAL NEUROGENETICS. THESE HPLC TESTS HAVE NOT BEEN CLEARED OR APPROVED BY THE U.S. FDA.

TEST PERFORMED BY: MEDICAL NEUROGENETICS, LLC
ONE DUNWOODY PARK, SUITE 250
ATLANTA, GA 30338

TRANSPORT TEMP : FROZEN\REFRIG NO\AMBIENT NO

25013 5-HYDROXYINDOLEACETIC ACID

UNITS: NMOL/L

- - - - -

25014 HOMOVANILLIC ACID

UNITS: NMOL/L

- - - - -

25015 3-O-METHYLDOPA

UNITS: NMOL/L

TEST CODE ALWAYS MESSAGE - [Z25015]

Z25015 REFERENCE RANGES:

AGE (YEARS)	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

- - - - -

91943 6/25/2009 TETRAHYDROBIOPTERIN/NEOPTERIN

UNIT CODE ALWAYS MESSAGE - [Z91940]

NOTE: IF TEST RESULTS ARE INCONSISTENT WITH THE CLINICAL PRESENTATION, PLEASE CALL OUR LABORATORY TO DISCUSS THE CASE AND/OR SUBMIT A SECOND SAMPLE FOR CONFIRMATORY TESTING.

DISCLAIMER REQUIRED BY THE FDA FOR HIGH COMPLEXITY CLINICAL LABORATORIES: HPLC TESTING WAS DEVELOPED AND ITS PERFORMANCE CHARACTERISTICS DETERMINED BY MEDICAL NEUROGENETICS. THESE HPLC TESTS HAVE NOT BEEN CLEARED OR APPROVED BY THE U.S. FDA.

TEST PERFORMED BY: MEDICAL NEUROGENETICS, LLC
ONE DUNWOODY PARK, SUITE 250
ATLANTA, GA 30338

TRANSPORT TEMP : FROZEN\REFRIG NO\AMBIENT NO

25011 NEOPTERIN
UNITS: NMOL/L

- - - - -
25012 TETRAHYDROBIOPTERIN
UNITS: NMOL/L

TEST CODE ALWAYS MESSAGE - [Z25012]

Z25012 REFERENCE RANGES:

AGE (YEARS)	BH4 (NMOL/L)	NEOP (NMOL/L)
0-0.2	40-105	7-65
0.2-0.5	23-98	7-65
0.5-2.0	18-58	7-65
2.0-5.0	18-50	7-65
5.0-10	9-40	7-40
10-15	9-32	8-33
ADULTS	10-30	8-28

- - - - -
25016 INTERPRETATION
- - - - -

*PERFORMING SITE LEGEND
=====

==

==



LABORATORY SERVICE REPORT

1-800-533-1710

PATIENT NAME TESTING, 919640		PATIENT NUMBER		AGE 49	SEX F	ACCESSION # G9130274
ORDERING PHYSICIAN		CLIENT ORDER #			ACCOUNT # LIAISONS	
COLLECTION 06/25/09 04:09 P	RECEIVED	REPORT PRINTED 06/30/09 12:41 P		SPECIMEN INFORMATION DATE OF BIRTH: 6/21/1960		
DATE	TIME	DATE	TIME			
Test Client Attn: Mayo Liaisons 200 First Street SW Rochester, MN 55905 507-284-8202						

TEST REQUESTED	HI	LO	REF RANGE	PERFORM SITE *
----------------	----	----	-----------	----------------

5-Methyltetrahydrofolate

5-Methyltetrahydrofolate 55 nmol/L REF

e

Reference Ranges:

Age (years)	5MTHF (nmol/l)
0-0.2	40-240
0.2-0.5	40-240
0.5-2.0	40-187
2.0-5.0	40-150
5.0-10	40-128
10-15	40-120
Adults	40-120

Neurotransmitter Metabolites/Amines

5-Hydroxyindoleacetic acid 154 nmol/L REF

Homovanillic acid 415 nmol/L REF

3-O-methyldopa 20 nmol/L REF

Reference Ranges:

Age (years)	SHIAA (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

Tetrahydrobiopterin/Neopterin

Neopterin 12 nmol/L REF

* Perform Site Legend on last page of report

PATIENT NAME TESTING, 919640	ORDER STATUS Final	COLLECTION DATE AND TIME 06/25/09 04:09 P
---------------------------------	-----------------------	--

Specimen receipt and report times are in CST/CDT

REPRINT

Page 1 of 2

06/30/2009 12:42PM



LABORATORY SERVICE REPORT

1-800-533-1710

PATIENT NAME TESTING, 919640		PATIENT NUMBER		AGE 49	SEX F	ACCESSION # G9130274
ORDERING PHYSICIAN		CLIENT ORDER #				ACCOUNT # LIAISONS
COLLECTION 06/25/09 04:09 P	RECEIVED	REPORT PRINTED 06/30/09 12:41 P		SPECIMEN INFORMATION DATE OF BIRTH: 6/21/1960		
DATE TIME	DATE TIME	DATE	TIME			
Test Client Attn: Mayo Liaisons 200 First Street SW Rochester, MN 55905 507-284-8202						

TEST REQUESTED	HI LO	REF RANGE	PERFORM SITE *
Tetrahydrobiopterin	24	nmol/L	REF
Reference Ranges:			
Age	BH4	Neop	
(years)	(nmol/l)	(nmol/l)	
0-0.2	40-105	7-65	
0.2-0.5	23-98	7-65	
0.5-2.0	18-58	7-65	
2.0-5.0	18-50	7-65	
5.0-10	9-40	7-40	
10-15	9-32	8-33	
Adults	10-30	8-28	
Interpretation			REF

Concentrations of neurotransmitter metabolites, tetrahydrobiopterin, neopterin and 5-methyltetrahydrofolate in cerebrospinal fluid were within our reference ranges. We now have biomarkers for folinic acid/pyridoxine responsive seizures (Antiquitin, ALDH7A1) that appear on our neurotransmitter metabolite chromatogram. These biomarkers WERE NOT seen in this patient.

* PERFORMING SITE

PATIENT NAME TESTING, 919640	ORDER STATUS Final	COLLECTION DATE AND TIME 06/25/09 04:09 P
---------------------------------	-----------------------	--

Specimen receipt and report times are in CST/CDT

REPRINT

Page 2 of 2