Neuro Basic Profile; urine

LABRIX By DOCTOR'S DATA

Order: 190522-2327
Client #: 18220
Doctor: Ronald Peters, MD
13951 N Scottsdale Rd #100
Scottsdale, AZ 85254 U.S.A.

Patient: Jamie Ashe
Id: ASHE-J-00024
Age: 46 **DOB:** 10/17/1972
Sex: Female
Body Mass Index (BMI): 34

Sample Collection	Date/Time
Date Collected	05/17/2019
Wake Up Time	02:30
Collection Period	1st morning void
Date Received	05/22/2019
Date Reported	05/24/2019

Analyte	Result	Unit per Creatinine	L WRI H	Reference Interval
Serotonin	2.0	µg/g		60 – 125
Dopamine	136	µg/g		125 – 250
Norepinephrine	8.2	µg/g		22 – 50
Epinephrine	2.5	µg/g		1.6 – 8.3
Norepinephrine / Epinephrine ratio	3.3			< 13
Glutamate	37	µmol/g		12.0 – 45.0
Gamma-aminobutyrate (GABA)	4.8	µmol/g		2.0 – 5.6
Glycine	1286	µmol/g		450 – 2200
Histamine	20	µg/g		14 – 44
Phenethylamine (PEA)	31	nmol/g		32 – 84
Creatinine	130	mg/dL		30 – 225

Neurotransmitter Comments:

- Urinary neurotransmitter levels provide an overall assessment of the body's ability to make and break down neurotransmitters and are representative of whole body levels. They are required for neurotransmission throughout the body. Direct assessment of neurotransmitter levels and metabolism in the central nervous system is not clinically feasible and approximately twenty percent of the total urinary levels are derived from the brain. The enzymes, cofactors and precursors in neurotransmitter metabolism in general are the same in the periphery and in the central nervous system. Therefore, alterations in urinary neurotransmitter levels assessed in urine provide important clinical information, and may be associated with many symptoms including cognitive and mood concerns, diminished drive, fatigue and sleep difficulties, cravings, addictions and pain.
- Low serotonin may contribute to mood concerns including anxiety, OCD, depression, anger and a sense of discontentment. Low serotonin may also be associated with poor sleep quality and appetite changes, as well as chronic fatigue, rheumatoid arthritis, and over-all lassitude. Failure to regenerate tetrahydrobiopterin [BH4], an essential cofactor for serotonin synthesis, may decrease serotonin levels, and could be reflected in urine. BH4 regeneration may be supported by folates, vitamin B3, C, molybdenum and zinc. Additionally, production of serotonin requires vitamin D, iron and vitamin B6. Tryptophan is the essential precursor of serotonin. 5-HTP may increase serotonin, and L-theanine may affect serotonin function.
- Low range dopamine may be associated with anxiety/depression, difficulty concentrating, decreased libido and obesity, and may be associated with increased addiction and other stimulation seeking activities. Failure to regenerate tetrahydrobiopterin [BH4], an essential cofactor for dopamine synthesis, may decrease dopamine levels, and could be reflected in urine. BH4 regeneration may be supported by folates, vitamin B3, C, molybdenum and zinc. Additionally, production of dopamine requires vitamin D, iron and vitamin B6. L-tyrosine, L-theanine and Mucuna pruriens may influence dopamine signaling.
- Low norepinephrine and low range epinephrine may be associated with depression and mood changes as well as fatigue, difficulty concentrating, decreased ability to stay focused on tasks and diminished sense of personal/professional drive. Norepinephrine is converted from dopamine requiring vitamin C, copper and niacin (B3). L-tyrosine, L-theanine and Mucuna pruriens influence this pathway.
- Upper range glutamate may contribute to anxiety, poor concentration, attention deficits and hyperactive tendencies as well as poor sleep and nighttime awakening. Glutamate may be increased in association with hypoglycemia, Alzheimer's, ALS and chronic compromised blood flow to the brain. Possible sources of increased glutamate include MSG, yeast extract and other hidden sources of free glutamic acid. L-theanine may modulate elevated glutamate levels and attenuate glutamate signaling, and taurine may provide protection from excitotoxicity and neuroinflammation.
- Upper range GABA may contribute to difficulty concentrating, diminished memory, dampened mood and decreased cognitive processing as well as fatigue, decreased exercise endurance, sleepiness and an inability to feel alert. L-theanine may modulate the effects of GABA.Upper range levels of GABA may be associated with bacterial overgrowth (i.e. urinary tract infection or gastrointestinal dysbiosis).

Notes:
Results are creatinine corrected to account for urine dilution variations. Creatinine is not meant to be used as an indicator of renal function.
RI= Reference Interval, L (blue)= Low (below RI), WRI (green)= Within RI (optimal), WRI (yellow)= Within RI (not optimal), H (red)= High (above RI)
Methodology: LCMS QQQ,Creatinine by Jaffe Reaction

- Low phenethylamine (PEA) may be associated with depression, attention deficits and hyperactivity (ADHD), Parkinson's disease and bipolar disorder. Phenylalanine is the precursor amino acid to PEA, and vitamin B6 is a required co-factor in the conversion to this primary trace amine. Use of Reserpine can result in depletion of PEA.
- Note: The reported low to low range monoamine neurotransmitters may be associated with genetic disruptions in methylation and/or suboptimal quantities of required co-factors. Further testing may be warranted.
- Considerations to address the demonstrated imbalances beyond the identified co-factors and amino acid precursors may include dosage adjustments if indicated, as well as nervine and adaptogenic herbs, methylation support, vitamin D, and gastrointestinal health optimization.

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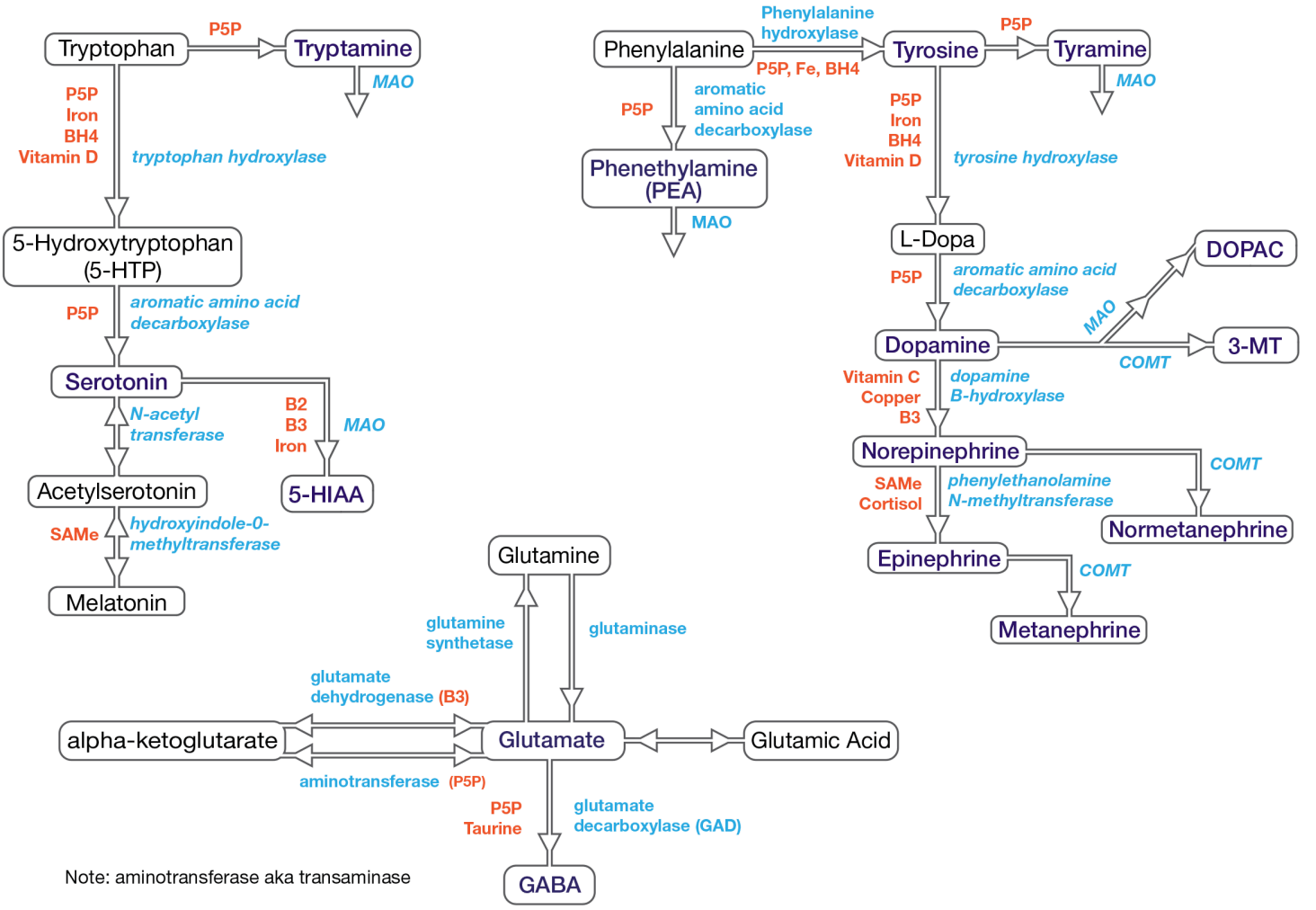
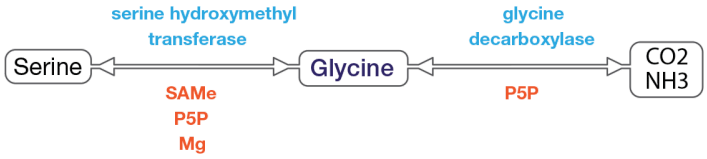
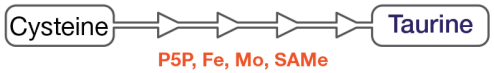
Neurotransmitter Pathways



"glycine cleavage system"





KEY

MAO = monoamine oxidase
Cofactors for *MAO*: **B2, B3, P5P, Fe, Mg**
COMT = catechol-o-methyl-transferase
Cofactors for *COMT*: **SAMe, Mg**
P5P = (pyridoxal-5-phosphate) activated form of vitamin B6
BH4 = (tetrahydrobiopterin)
Endogenous levels can be supported with SAMe, vitamin B3, C, Mo, Zn
MTHF = (methyltetrahydrofolate) active form of folate.
SAMe = endogenous levels can be supported with Mg, MTHF, and methylcobalamin supplementation.

Cofactors = Enzymes =

PATIENTS: PLEASE FILL OUT COMPLETELY AND RETURN TO THE LAB WITH YOUR SAMPLE(S)

Jamie M Astle 10/17/72

First Name | Middle Initial | Last Name | DOB

Symptoms

Please indicate the symptoms you are experiencing as: 0 (none), 1 (mild), 2 (moderate), 3 (severe).
For example if you are moderately anxious you would indicate this by darkening the 2 next to 'anxious' e.g. 0 1 ■ 3 Anxious

ALL INDIVIDUALS

- 0 1 2 3 Difficulty Concentrating
- 0 1 2 3 Increased Forgetfulness
- 0 1 2 3 Foggy Thinking
- 0 1 2 3 Tearful
- 0 1 2 3 Depressed
- 0 1 2 3 Mood Swings
- 0 1 2 3 Fluid Retention/Bloating
- 0 1 2 3 Stress
- 0 1 2 3 Anxious
- 0 1 2 3 Irritable
- 0 1 2 3 Nervous
- 0 1 2 3 Decreased Mental Sharpness
- 0 1 2 3 Morning Fatigue
- 0 1 2 3 Afternoon Fatigue
- 0 1 2 3 Evening Fatigue
- 0 1 2 3 Excessive Worry
- 0 1 2 3 Difficulty Falling Asleep
- 0 1 2 3 Difficulty Staying Asleep
- 0 1 2 3 Decreased Stamina
- 0 1 2 3 Diminished Motivation
- 0 1 2 3 Fibromyalgia
- 0 1 2 3 Ringing in Ears
- 0 1 2 3 Allergies
- 0 1 2 3 Headaches/Migraines
- 0 1 2 3 Dizzy Spells
- 0 1 2 3 Sugar Cravings
- 0 1 2 3 Addictive Behavior
- 0 1 2 3 Poor Impulse Control
- 0 1 2 3 Obsessive Behavior (OCD)
- 0 1 2 3 Craving Food, Alcohol, Tobacco, or Other
- 0 1 2 3 Constipation
- 0 1 2 3 Goiter
- 0 1 2 3 Cold Body Temperature
- 0 1 2 3 Hoarseness
- 0 1 2 3 Hair Dry or Brittle
- 0 1 2 3 Nails Breaking or Brittle
- 0 1 2 3 Slow Pulse Rate
- 0 1 2 3 Rapid Heartbeat
- 0 1 2 3 Heart Fluttering/Palpitations
- 0 1 2 3 Incontinence
- 0 1 2 3 Hot Flashes
- 0 1 2 3 Night Sweats
- 0 1 2 3 Infertility Concerns
- 0 1 2 3 Acne
- 0 1 2 3 Scalp Hair Loss
- 0 1 2 3 Weight Gain-Hips
- 0 1 2 3 Weight Gain-Waist
- 0 1 2 3 High Cholesterol
- 0 1 2 3 Elevated Triglycerides
- 0 1 2 3 Decreased Libido
- 0 1 2 3 Decreased Muscle Size
- 0 1 2 3 Decreased Flexibility
- 0 1 2 3 Burned Out Feeling
- 0 1 2 3 Sore Muscles
- 0 1 2 3 Increased Joint Pain
- 0 1 2 3 Neck or Back Pain
- 0 1 2 3 Bone Loss
- 0 1 2 3 Thinning Skin
- 0 1 2 3 Rapid Aging
- 0 1 2 3 Aches and Pains
- 0 1 2 3 IBS

Height (inches) 5 4
Weight (lbs) 125

☐ Personal/Family History of: Breast, Uterine, or Ovarian Cancer

WOMEN ONLY

- 0 1 2 3 Vaginal Dryness
- 0 1 2 3 Irregular Periods
- 0 1 2 3 Uterine Fibroids
- 0 1 2 3 Tender Breasts
- 0 1 2 3 Fibrocystic Breasts
- 0 1 2 3 Increased Facial/Body Hair

Last Menses __/__/__

MEN ONLY

- 0 1 2 3 Decreased Urine Flow
- 0 1 2 3 Increased Urinary Urge
- 0 1 2 3 Prostate Problems
- 0 1 2 3 Decreased Erections

Hormone Use

Indicate the hormones you have used in the past 2 months, and provide details below (see example.)

Check all that apply: ☐ none ☐ Testosterone ☐ Progesterone ☐ Estradiol ☐ Estriol ☐ DHEA ☐ Hydrocortisone

HORMONE THERAPIES	Example	1	2	3	4
Name of Hormone	Testosterone				
Brand or Source	Compounded				
Delivery	Topical				
Amount (mg)	1 mg				
Date & Time Last Used Prior to Sample Collection	MM / DD / YY 8:30 AM | PM	__/__/__ : AM | PM	__/__/__ : AM | PM	__/__/__ : AM | PM	__/__/__ : AM | PM
How Often	Once a day/everyday				
How Long Used	For 10 months				

Does anyone else in your household use topical hormones? ☐ Yes ☐ No

Medication or Amino Acid Use

Check all amino acids and list pertinent medications you have used in the past 2 months. If none are used, check here: ☐

AMINO ACIDS

- ☐ 5-HTP
- ☐ Melatonin
- ☐ Tryptophan
- ☐ GABA
- ☐ SAMe
- ☐ Tyrosine
- ☐ Glutamine
- ☐ Theanine

Date & Time last taken prior to sample collection:

__/__/__ : AM | PM

ANTI-ANXIETY / DEPRESSION / PSYCHOTIC MEDICATIONS (Date & Time Last Taken)

Example	1	2	3
Prozac			
MM / DD / YY 8:30 AM | PM	__/__/__ : AM | PM	__/__/__ : AM | PM	__/__/__ : AM | PM

COMMENTS: (Please do not use additional sheets of paper)

Please Note I wake up @ 2/3 AM AND DO NOT go back to bed. Only sleep 4-5 MAX hours - Urine & First saliva FROZEN Sunday at 300

THIS SPACE FOR LAB USE ONLY

190522-0292

12:10PM MORGAN.

190522-2327

019 12:07:55 PM emorgan

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