Test Results:
Neuro-Hormone Report

Report Number:
-SS009

Provider:

Sample Reports
16255 SE 130th Ave
Clackamas, OR 97230 SAMPLE
Ordering Provider: Sample Provider

Patient Info:
Silas M Sample

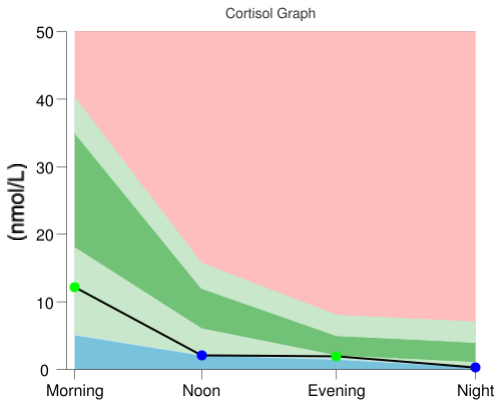
Age:31 **Gender:**M

Menopausal Status:
Male

1234 Apple Tree Ln
Portland, OR 97015

Sample Collection	Date/Time
Morning	09/23/2017 0600
Noon	09/23/2017 1200
Evening	09/23/2017 1700
Night	09/23/2017 2330
Urine	09/23/2017 0600
Wake Up Time	0530
Samples Arrived	09/24/2017
Results Reported	10/31/2017

	Saliva Hormone Test	Result	Units	L	WR	H	Reference Range
HORMONES	**Estrone (E1)***		pg/ml				
	Estradiol (E2)		pg/ml				
	Estriol (E3)*		pg/ml				
	EQ (E3 / (E1 + E2))						
	Progesterone (Pg)		pg/ml				
	Ratio of Pg/E2**						
	Testosterone*		pg/ml				
ADRENALS	**DHEA***	124.56	pg/ml	↓			**137.0-336.0 male**
	Cortisol Morning	12.17	nmol/L		◆		**5.1-40.2; optimal range: 18-35†**
	Cortisol Noon	2.08	nmol/L	↓			**2.1-15.7; optimal range: 6-12†**
	Cortisol Evening	1.94	nmol/L		◆		**1.8-12; optimal range: 4-8†**
	Cortisol Night	0.28	nmol/L	↓			**0.9-9.2; optimal range: 2-6†**



Adrenal Phase: 2

Hormone Comments:

- DHEA level is consistent with the expected decline with age (adrenopause). The low DHEA level may warrant supplementation for optimal well-being. Note: Supplementation with DHEA may increase testosterone and/or estradiol levels.
- Diurnal cortisol pattern and reported symptoms are consistent with evolving (Phase 2) HPA axis (adrenal gland) dysfunction.

Notes:

L=Low(below range) WR=Within Range (within range) H=High (above range)

*This test was developed and its performance characteristics determined by Labrix Clinical Services, Inc. The US FDA has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

**The Pg/E2 ratio is an optimal range established based on clinical observation. Progesterone supplementation is generally required to achieve this level in men and postmenopausal women.

†Apply only when all four cortisols are measured. Clinical comments may override these generalized optimal ref. ranges.

Jay H. Mead MD FASCP
Labrix Clinical Services, Inc Medical Director

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	Neurotransmitter Test	Result	Units	L / WR / H	Reference Range	
NEUROTRANSMITTERS	**Serotonin**	42.25	µg/gCr		74.13 - 111.19	INHIBITORY
	GABA	0.95	µMol/gCr		1.4 - 5.0	
	Dopamine	91.45	µg/gCr		139.1 - 208.7	
	Norepinephrine	21.27	µg/gCr		28.07 - 42.11	
	Epinephrine	3.49	µg/gCr		3.36 - 5.05	EXCITATORY
	Glutamate	60.56	µMol/gCr		8.0 - 45.0	
	N/E Ratio	6.09			<10.0	
	Creatinine	101.54	mg/dL			

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. Production of serotonin requires vitamin D, tetrahydrobiopterin, iron and vitamin B6. Tryptophan is the essential precursor of serotonin. 5-HTP may increase serotonin, and L-theanine may affect serotonin function.
- Low GABA may be associated with anxiety, poor impulse control, major depression, pain, and decreased sleep quality. Low GABA may be seen in individuals deficient in vitamin B6. L-theanine, GABA, and glutamine may positively affect functional GABA activity, and phenibut exerts GABA-like effects (experimental models).
- Low 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. Production of dopamine requires vitamin D, tetrahydrobiopterin, iron and vitamin B6. L-tyrosine, L-theanine and Mucuna pruriens may influence dopamine signaling.
- Low norepinephrine 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 B3, and L-tyrosine is an amino acid precursor. L-theanine and Mucuna pruriens may modulate norepinephrine effects.
- Elevated 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.
- 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. 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.

Notes:

**Creatinine has no diagnostic value and is measured solely for calculation of neurotransmitter levels.*
**Neurotransmitter test results are for investigational use only.*

Jay H. Mead MD FASCP
Labrix Clinical Services, Inc Medical Director