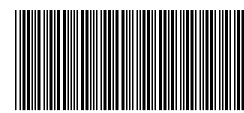


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17-Mar-26

Collected
10-Mar-26

Enzyme





26076-0111

Lab ID
Patient ID P000066
Ext ID 26076-0111

Test Patient

Sex: Male • 56yrs • 01-Jan-70
123 Home Street, Test Suburb VIC 3125

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INHIBITORY NEUROTRANSMITTERS

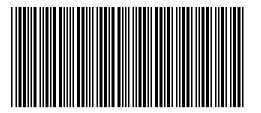
TEST	RESULT	H/L	REFERENCE	UNITS
Serotonin	57.7		(47.6-140.3)	ug/gCR

EXCITATORY NEUROTRANSMITTERS

[illegible]

Urine Creatinine

TEST	RESULT	H/L	REFERENCE	UNITS
Creatinine, Urine	10.20		(3.45-22.90)	mmol/L



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Inhibitory Neurotransmitter Comment

SEROTONIN LEVELS LOW NORMAL

Generally regarded as the happiness molecule, serotonin has calming effects and contributes to the feelings of well-being. Serotonin elevates mood, decreases anxiety, appetite, and libido, improves sleep and memory, eases depression, and helps regulate body temperature. Most of serotonin in the human body is produced in the gastrointestinal tract, where it stimulates gut motility. Research shows that urinary serotonin levels are reduced in patients with depression (Nichkova et al., 2012), depleted neuron stores (poor nutrition with high demand), Interference from other signaling chemicals, Low carbohydrate diet, High protein competition, Heavy metal toxicity, Inflammation. Clinically, low serotonin is associated with anxiety, depression, changes in appetite, cravings, excessive worry, heightened sensitivity to pain, hot flashes, hunger, low mood, migraine, obsessive compulsive disorder, panic disorder, sleep disturbances, and worsened PMS symptoms.

TREATMENT:

When serotonin is low, supplementation with cofactors to promote biosynthesis (e.g. vitamin B6), precursors (tryptophan/5-HTP), theanine, SAME, Carnitine, St Johns Wort, SSRI, Massage, Melatonin, Hydroxy-tryptophan, Vit B6, Fish Oils, and probiotics may be helpful. Additionally, lifestyle modifications, such as regular exposure to bright light, healthy diet, sufficient exercise, and positive self-talk are all effective strategies that result in increased serotonin levels.

Excitatory Neurotransmitter Comment

HISTAMINE LEVELS HIGH NORMAL:

Histamine is both a neurotransmitter and a modulator of the immune system that has anti-pain properties, plays a neuroprotective role in the brain, and contributes to optimal maintenance of cognition and memory.

Histamine stimulates wakefulness and decreases sleep, stimulates gastric acid production, increases metabolism, suppresses appetite, and prevents weight gain. Histamine is a potent vasodilator and a pro-inflammatory agent.

Urinary histamine is high in patients with burns, flushing disorder, food allergies, cystitis, polycythemia, and pregnancy.

Clinically, high histamine levels are implicated in allergies, depression, headaches, migraines, OCD, schizophrenia, sensitivity to chemicals, and sleep difficulties.

PEA LEVELS WITHIN REFERENCE RANGE:

PEA, also known as phenethylamine, promotes energy, elevates mood, and regulates attention.

PEA also contributes to aggression, serves as a biomarker for ADHD, and prolongs the signaling of dopamine, norepinephrine, and serotonin.

DOPAMINE LEVELS LOW:

May be low due to chronic damage to Dopamine neurons, receptors, transporter, excess serotonin levels, chronic use of drugs of abuse, alcohol, nicotine, ADD drugs.

TREATMENT:

Tyrosine, B6, Cocoa, Rhodiola, Green tea, Carnitine, Theanine, Siberian ginseng, Dopamine inhibitors, Caffeine, Guarana, Yohimbine, Phenylalanine, L-Dopa, folic acid, thiamine, protein-rich diet.

NORADRENALIN LEVELS LOW:

Noradrenalin (Norepinephrine) functions both as a neurotransmitter and a hormone, participating in the body's "fight or flight" response. Noradrenalin increases alertness, focuses attention, fine-tunes vigilance, increases blood pressure, heart rate, and blood sugar, reduces digestive activity, pain, and sleep, prevents bladder emptying, and regulates body temperature. Noradrenalin is very similar in structure and physiological effects to Adrenalin. The adrenal gland produces approximately 20% of the total output with 80% produced by the sympathetic nerve fibers.



Dr Test Doctor (Test Doctor) Test Clinic. 123 Test Street, Test Suburb Victoria 3125

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Urinary Noradrenalin is reduced in patients with Alzheimer's disease and may also be low due to the following: Toxic or other damage to Noradrenalin neurons, Depletion of stores (impact of stress and poor diet), Adrenal fatigue/exhaustion, Excess prostaglandin E2.

Clinically, low Noradrenalin is implicated in anorexia, attention impairment, depression, fatigue, hypotension, lack of motivation, lethargy, low mood, memory issues, slow pulse rate, and weight issues.

TREATMENT:

Precursor supplementation with tyrosine or phenylalanine, or cofactor support with ascorbic acid, iron, tetrahydrofolate, Cocoa, Rhodiola & Green tea and Vitamin C and vitamin B6 may be beneficial.

ADRENALIN LEVELS LOW NORMAL.

Adrenaline functions both as a neurotransmitter and a hormone, participating in the body's "fight or flight" response. Approximately 80% of peripheral catecholamine output by the adrenal glands is adrenalin.

Reduced urine adrenalin is seen in Alzheimer's disease, metabolic syndrome, and obesity. Clinically, low adrenalin is implicated in attention impairment, chronic stress, depression, cold body temperature, dizziness, chronic fatigue, hypotension, low mood and libido, and memory issues.

TREATMENT:

Adrenal support may be beneficial to increase adrenalin levels.

Methodology

Liquid Chromatography-Mass Spectrometry (LC-MS/MS/MS), Automated Chemistry/Immunochemistry