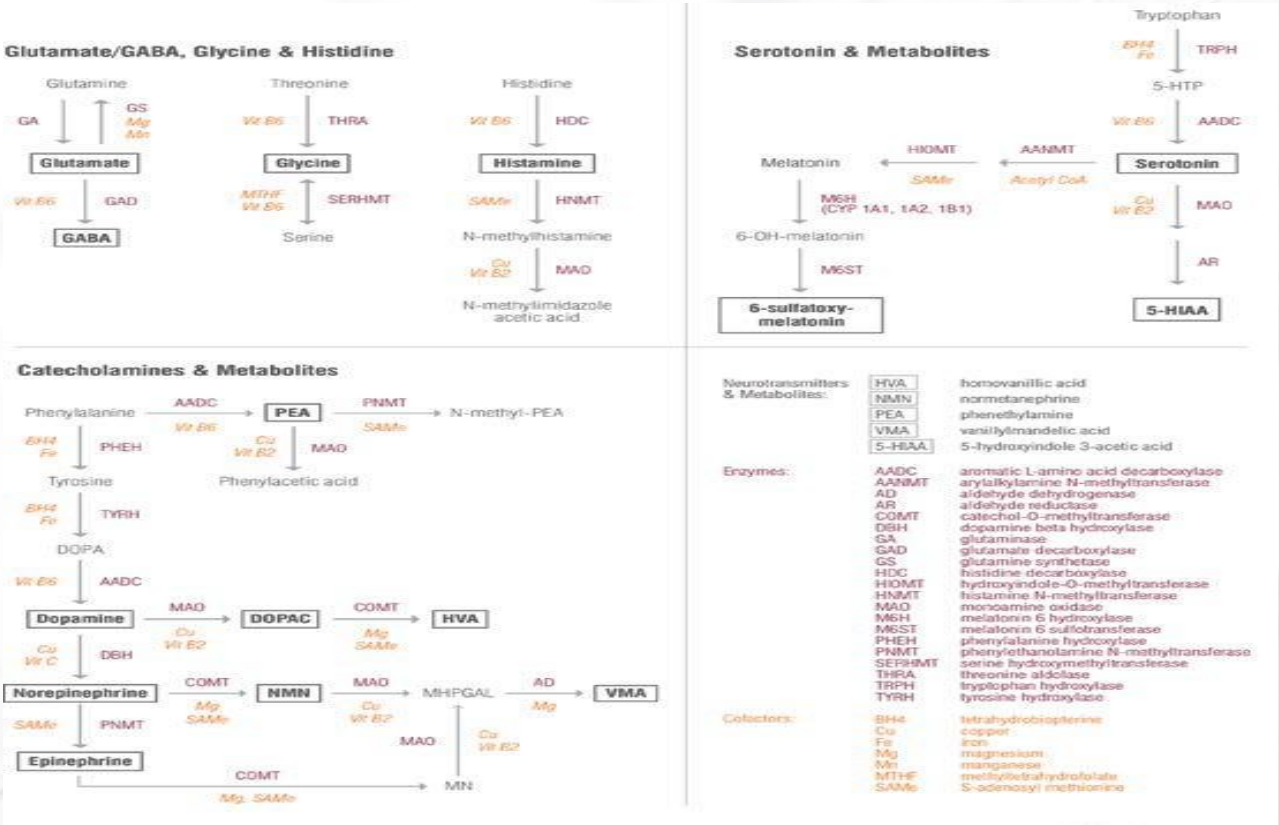
NutriPATH
INTEGRATIVE PATHOLOGY SERVICES

NEUROTRANSMITTERS (4x Point Urine Assessment)

The cause of mood disorders is profoundly complex and likely encompasses many different types of neurotransmitters, how they achieve balance in the brain and in the gut axis, and how they each interplay with other hormone systems throughout the body. Appropriate balancing of neurotransmitter signals allows the body to maintain equilibrium. When brain and peripheral neurochemistry become unbalanced, the body will struggle to re-establish physiological integrity, which may present in the form of suboptimal psychological well-being. Excessive or deficient levels of certain neurotransmitters in both the brain and in the periphery are associated with a spectrum of neurobiological disorders, such as depression and anxiety. The measurement of specific imbalances may be a very effective neurobiological tool in guiding targeted intervention, aimed at addressing the individual excess or deficiency in question.

The importance of effectively assessing and treating mood disorders cannot be overstated. Objectivity is a key element to the therapeutic approach to mood disorders. Currently, the standard of care dictates a trial and error pharmaceutical approach is taken with each patient based on both self and clinician assessments. However, without information yielded from objective clinical testing, selection of the most effective treatment for each particular patient with a mood disorder continues to be a challenge. While this may prove effective for some patients, the potential for harm during those interim treatment failures is a real concern for clinicians and patients alike.



Neurotransmitter	High Levels in Urine	Low Levels in Urine
Glutamate functions as the brain's major excitatory neurotransmitter.	Glutamate is high in celiac disease and hyperthyroidism. Clinically, high glutamate is suspected in anxiety, autism, bipolar disorder, depression, panic attacks, and sleep issues.	Glutamate is low in patients with migraines. Clinically, low glutamate is implicated in agitation, depression, chronic fatigue, lack of concentration, low energy levels, and sleep disturbance.
PEA serves as a biomarker for ADHD.	PEA is elevated in individuals with bipolar major affective disorder and severe anxiety.	PEA is low in patients with autism, ADHD, depression, and inattentiveness.
Histamine is a neurotransmitter and immuno-modulator.	High histamine may implicate allergies, depression, headaches, migraines, OCD, and sleep difficulties.	Low histamine is associated with fatigue, low libido, low productivity, mild depression, tension headaches, and weight gain.
Dopamine serves as the reward and pleasure center in the brain. **DOPAC** and **HVA** are dopamine metabolites.	High dopamine is reported in patients with high in anxiety, stress, PTSD, and mercury toxicity[17].	Dopamine is low in Alzheimer's disease, anorexia nervosa, fibromyalgia, periodic limb movement disorder, sleep disturbances.
Epinephrine (adrenalin) and **norepinephrine** regulate the "fight or flight" response. **Normetanephrine** is a norepinephrine metabolite, and **VMA** is a norepinephrine and epinephrine metabolite.	Epinephrine and norepinephrine levels are high in patients with anxiety, ADHD, bipolar disorder depression, sleep apnea, PTSD, and stress.	Epinephrine and norepinephrine levels are low in Alzheimer's disease, metabolic syndrome[31], and obesity.
GABA functions as the brain's major inhibitory neurotransmitter.	GABA is elevated in ovarian cancer patients, and is suspected in anxiety, excessive need for sleep, foggy thinking, and lethargy.	Low GABA is implicated in anxiety, sleep difficulties, adrenal distress and hypothalamic pituitary adrenal axis feedback dysfunction. Low GABA levels are associated with disorders like ADHD and Tourette syndrome.
Serotonin contributes to the feelings of happiness and well-being. **5-HIAA** is a serotonin metabolite.	Increased serotonin is implicated in anxiety, high blood pressure, irritability, and low libido.	Serotonin is decreased in depression, and may be associated with heightened sensitivity to pain, hot flashes, hunger, low mood, migraines, OCD, panic disorder, sleep disturbances, and worsened PMS.
Glycine plays a dual role as a neurotransmitter and an amino acid that serves as a building block to proteins.	Clinically, high glycine levels are suspected in anxiety and sleep difficulties.	Clinically, low glycine levels are suspected in anxiety.

Available Neurotransmitter Tests:

- 4026-Extensive Neurotransmitters
- 4035 Intermediate Neurotransmitters
- 4036 Advanced Neurotransmitters

Phone 1300 688 522 for further details
www.nutripath.com.au

How to order a test kit: To order a test kit simply request the test name and/or test code on a NutriPATH request form and have the patient phone NutriPATH Customer Service on 1300 688 522.

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