

## EXCITATORY NEUROTRANSMITTERS

●●● **Aspartic Acid** is vital for energy and brain function.

↑ **High levels**

- Seizures
- Anxiousness

↓ **Low levels**

- Tiredness
- Low mood

●●● **Epinephrine**, also known as adrenaline, important for motivation, energy and mental focus.

↑ **High levels**

- Sleep difficulties
- Anxiousness
- Attention issues

↓ **Low levels**

- Fatigue
- Lack of focus
- Difficult weight loss

●●● **Norepinephrine**, also known as noradrenaline, is important for mental focus and emotional stability.

↑ **High levels**

- Anxiousness
- Stress
- Hyperactivity
- High blood pressure

↓ **Low levels**

- Lack of energy
- Lack of focus
- Lack of motivation

●●● **Dopamine** is responsible for feelings of pleasure and satisfaction, also muscle control and function.

↑ **High levels**

- Poor intestinal function
- Developmental delay
- Attention issues

↓ **Low levels**

- Addictions
- Cravings

●●● **Glutamate** is the body's primary excitatory neurotransmitter, necessary for learning and memory.

↑ **High levels**

- Anxiousness
- Low mood
- Seizures
- Psychological disorders

↓ **Low levels**

- Tiredness
- Poor brain activity

●●● **PEA** is important for focus and concentration.

↑ **High levels**

- Mind racing
- Sleep difficulties
- Anxiousness

↓ **Low levels**

- Difficulty paying attention
- Difficulty thinking clearly
- Low mood

●●● **Histamine** helps control the sleep-wake cycle as well as energy and motivation.

↑ **High levels**

- Allergic responses
- Sleep difficulties

↓ **Low levels**

- Feeling tired

## INHIBITORY NEUROTRANSMITTERS

●●● **GABA** is the primary inhibitory neurotransmitter in the brain and is necessary to feel calm and relaxed.

↑ **High levels**

- Hyperactivity
- Anxiousness
- Sleep difficulties

↓ **Low levels**

- Severe hyperactivity
- Severe anxiousness
- Severe sleep difficulties

●●● **Glycine**, like GABA, helps calm & relax the body.

↑ **High levels**

- Anxiousness
- Low mood
- Stress-related disorders

↓ **Low levels**

- N/A

●●● **Taurine** is important for proper heart function, healthy sleep and promoting calmness.

↑ **High levels**

- Hyperactivity
- Anxiousness
- Sleep difficulties

↓ **Low levels**

- Severe hyperactivity
- Severe anxiousness
- Severe sleep difficulties

●●● **Agmatine** blocks the potentially harmful effects of excessive glutamate.

↑ **High levels**

- N/A

↓ **Low levels**

- Anxiousness
- Low mood
- Stress

●●● **Serotonin** plays important roles in the resolution of mood, sleep, and appetite.

↑ **High levels**

- SSRI medications

↓ **Low levels**

- Low mood
- Sleep difficulties
- Uncontrolled appetite
- Headaches
- Hot flashes

## OTHER PARAMETERS

●●● **Glutamine** is an amino acid that is made into GABA and glutamate. Optimal glutamine levels are important for intestinal function. High glutamine levels are thought to be a signal for imbalances within the nervous system.

●●● **DOPAC** is a breakdown product of the neurotransmitter dopamine. As such, DOPAC levels, when viewed in conjunction with dopamine levels, may provide insight into how the body processes neurotransmitters.

●●● **Creatinine** is a normalizing parameter used to calculate neurotransmitter levels. Creatinine is produced by the kidneys at a constant rate. Therefore, by using creatinine as a constant factor, urinary measurements can be performed without having to factor in the patient's hydration state, possible renal disorders, or diuretic substances.