



Neurotransmitter Testing

*Discover True Clinical Utility with the
Industry's Best Testing*



Why Test Neurotransmitters & Hormones?

In the neurological system, hormones are synergistic with neurotransmitters – modulating their production, signaling and metabolism. Because of this complex interplay, testing hormones and neurotransmitters together is the ideal way to generate a more precise clinical assessment.

This combined assessment gives practitioners a more thorough evaluation of the systems that interact to govern key facets of our health including mood, memory, energy, sleep, weight, libido and fertility. It allows practitioners to target specific imbalances and get to the root of persistent conditions such as HPA axis dysfunction, anxiety and depression, menstrual cycle disorders, PCOS, insulin resistance, dysregulation of the sympathetic nervous system, low libido and appetite control.

This evaluation also gives practitioners a diagnostic edge over the traditional psychological inventory. It offers the advantage of zeroing in on which therapies are best suited for individual patients – cutting down on the time-consuming process of trial-and-error for identifying treatment options.

Why Test Neurotransmitters & Elements?

Heavy metals are damaging to brain health. They disrupt neurotransmitter function and create oxidative stress that is detrimental to nerve cells, contributing to mood disorders, poor memory and dementia. Identifying exposure to heavy metals may be key to assessing and treating mood disorders and preventing neurodegenerative diseases.

In contrast, nutritional elements are generally protective for brain health. Lithium acts directly on the brain by slowing the progression of dementia and stabilizing mood, while elements like iodine and selenium act indirectly by supporting healthy thyroid and brain function.



MOST CONVENIENT

ZRT is the only lab to provide a standard 24-hour picture of neurotransmitter function – giving a more accurate assessment of individual neurochemistry.



MOST COMPREHENSIVE

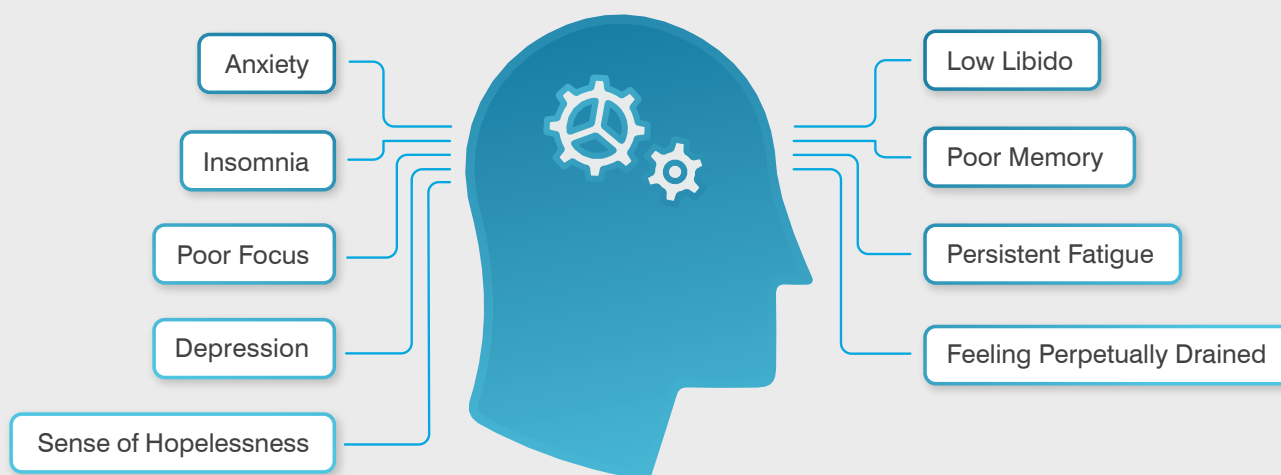
ZRT combines 14 neurotransmitter tests with a collection of salivary or urinary hormones and metabolites, and/or urinary elements, for the broadest evaluation possible.



NO SUPPLEMENT SALES

ZRT is dedicated to testing. Unlike other labs, we don't sell supplements – which avoids any conflicts of interest.

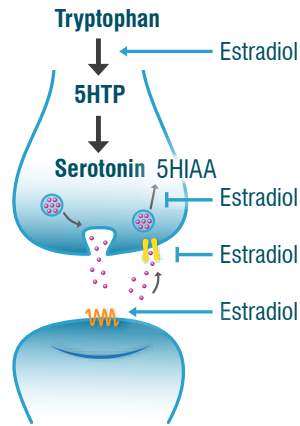
PATIENTS SHOULD BE TESTED IF THEY SUFFER FROM:



Hormonal Regulation of Neurotransmitter Activity

Estradiol & Serotonin

Estradiol synergizes serotonin signaling – stimulates biosynthesis, potentiates receptor activation, blocks re-uptake and inhibits degradation.

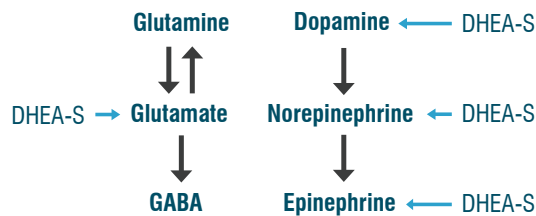


Imbalances can cause:

- ▶ Hot Flashes
- ▶ Night Sweats
- ▶ Mood Changes
- ▶ Irritability
- ▶ Anxiety
- ▶ Depression

DHEA-S

Stimulates adequate production of glutamate, dopamine, norepinephrine and epinephrine.

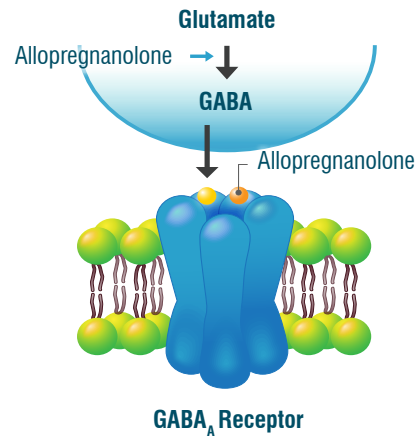


Imbalances can cause:

- ▶ Decreased Stamina
- ▶ Fatigue
- ▶ Low Libido
- ▶ Feeling "Tired & Wired"
- ▶ Depression
- ▶ PTSD

Progesterone & GABA

Via allopregnanolone, progesterone modulates GABA production and GABA A receptor signaling.

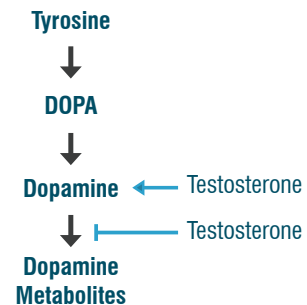


Imbalances can cause:

- ▶ PMS/PMDD
- ▶ Anxiety
- ▶ Sleep Problems
- ▶ Depression
- ▶ Mood Changes

Testosterone & Dopamine

Testosterone potentiates dopamine signaling – stimulates biosynthesis and blocks degradation.



Imbalances can cause:

- ▶ Burned-Out Feeling
- ▶ Low Libido
- ▶ Irritability
- ▶ Addictive Behaviors
- ▶ Apathy
- ▶ Depression



YOUR LAB *of* CHOICE

www.zrtlab.com
1-866-600-1636
info@zrtlab.com

ZRT Laboratory
8605 SW Creekside Place
Beaverton, OR 97008

Free, helpful ZRT
webinars on neurotransmitters:
www.zrtlab.com/webinars



Neurotransmitters you should know...

▶ GABA

GABA functions as the “off” switch in the brain; as the major inhibitory neurotransmitter in the brain that improves mood, relieves anxiety, and promotes sleep.

▶ Serotonin

Serotonin, generally regarded as the “happiness molecule,” contributes to the feelings of calm and well-being that eases depression and anxiety, supports sleep, and decreases appetite. (**5-HIAA [5-hydroxyindoleacetic acid]** is a serotonin metabolite).

▶ Glycine

Glycine plays a dual role as a neurotransmitter and amino acid that serves as a building block to proteins, improves sleep quality, calms aggression, and serves as an anti-inflammatory agent.

▶ Glutamate

Glutamate functions as the “on” switch in the brain; as the major excitatory neurotransmitter in the brain that decreases sleep, optimizes learning, memory, and mood, and improves libido.

▶ Histamine

Histamine plays a dual role in the body as a neurotransmitter and immunomodulator that increases metabolism, promotes wakefulness, and suppresses appetite.

▶ PEA

PEA (phenylethylamine) promotes energy, elevates mood, regulates attention, aggression, and serves as a biomarker for ADHD.

▶ Epinephrine & Norepinephrine

Epinephrine and **norepinephrine** function as neurotransmitters and hormones that regulate the “fight or flight” response and elevate blood pressure and heart rate, stimulate wakefulness, and reduce digestive activity. (**Normetanephrine** is a norepinephrine metabolite. **VMA [vanillylmandelic acid]** is an epinephrine and norepinephrine metabolite).

▶ Dopamine

Dopamine generally regarded as the brain’s pleasure and reward center, plays the central role in addiction, improves attention, focus, and motivation, and modulates movement control. (**DOPAC** and **HVA [homovanillic acid]** are dopamine metabolites).

Available Add-ons

Hormone Panels

- ▶ **Saliva:** Estradiol, Progesterone, Testosterone, DHEA-S & Cortisol
- ▶ **Urine:** Estradiol, Pregnanediol, Allopregnanolone, Androstenedione, Testosterone, Epi-Testosterone, 5 α -Dihydrotestosterone (5 α -DHT), DHEA, 5 α ,3 α -Androstanediol

Diurnal Panels

- ▶ Diurnal Cortisol
- ▶ Diurnal Cortisol & Melatonin
- ▶ Diurnal Cortisol, Norepinephrine & Epinephrine
- ▶ Diurnal Cortisol, Melatonin, Norepinephrine & Epinephrine

Element Panel

- ▶ **Urine Elements:** Iodine, Selenium, Bromine, Lithium, Arsenic, Cadmium, Mercury