



# LIPOSOMAL GABA + L-THEANINE

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Persistent stress has, unfortunately, become commonplace in our modern-day society. This type of stress induces a profound shift in the nervous system, skewing the body towards a heightened sympathetic "fight-or-flight" response and a dampened parasympathetic "rest-and-digest" response.

**Liposomal GABA with L-Theanine** combines a highly bioavailable form of GABA, the body's primary inhibitory neurotransmitter, with the green tea-based compound L-theanine for optimal parasympathetic nervous system support, helping your patients achieve calm and relaxation amidst our frenetic world.

## EDUCATION

### SOOTHE AND PROTECT THE MIND WITH BIOAVAILABLE GABA

GABA (gamma-aminobutyric acid) is produced by neurons in the brain and the gastrointestinal tract, and functions as the body's principal inhibitory neurotransmitter.<sup>1,2</sup> GABA balances the autonomic nervous system, inhibiting the sympathetic "fight-or-flight" response and enhancing the parasympathetic "rest-and-digest" response. Many pharmacological agents, including benzodiazepines, exert anxiolytic, analgesic, anticonvulsant, and sedative effects by modulating GABA receptor activity and increasing GABA availability.<sup>3,4</sup>

Persistent stress induces an imbalance in excitatory and inhibitory neurotransmission, reducing GABA signaling and creating a vicious cycle of anxiety.<sup>5</sup> GABA signaling may also decrease with age, leading to cognitive impairment.<sup>6</sup> Supplemental GABA has been found to reduce stress and improve heart rate variability, a measure of autonomic nervous system balance.<sup>7</sup> It also alleviates anxiety and improves sleep quality.<sup>8</sup> Fascinatingly, GABA-loaded liposomes may also represent a promising therapy for the treatment of neurological diseases, such as Alzheimer's disease.<sup>9</sup>

### L-THEANINE: A POTENT ANTI-STRESS INGREDIENT IN GREEN TEA

L-theanine is an amino acid analogue derived from L-glutamate and L-glutamine that is found in high amounts in green tea. Clinical research indicates that L-theanine offers potent anti-stress effects, without causing drowsiness, and supports a positive mood and relaxation.<sup>10,11</sup> In fact, L-theanine is proposed to be the reason why green tea-drinking monks experience such extraordinary calm and focus!

Research indicates that L-theanine exerts these effects by increasing alpha-wave activity in the brain, inhibiting excitatory glutamate neurotransmission, and modulating levels of serotonin, dopamine, and GABA in the central nervous system.<sup>12,13,14</sup>



## Supplement Facts

Serving Size: 2 mL (4 Pumps)  
Servings Per Container: 25

	Amount Per Serving Value	% Daily
GABA (Gamma Amino Butyric Acid)	250mg	**
L-Theanine	100mg	**
Phosphatidylcholine (from highly purified phospholipids)	134mg	**

\*\*Daily Value not established

**Other Ingredients:** Water, glycerin, ethanol, tocopherols, natural mixed tocopherols

More recently, L-theanine has been revealed to have potent neuroprotective properties. It boosts levels of brain-derived neurotrophic factor (BDNF) and enhances long-term potentiation, a strengthening of neuronal synapses based on recent activity that is critical in learning and memory.<sup>15,16</sup>

### **GABA AND L-THEANINE: BETTER TOGETHER**

When it comes to inducing calm and relaxation, GABA and L-theanine work synergistically together. The compounds swiftly balance parasympathetic nervous system activity, supporting deep rest and relaxation. In fact, research has found that the synergistic combination of GABA and L-theanine dramatically decreases sleep latency while increasing deep, restorative non-REM (NREM) sleep.<sup>17</sup>

### **GABA AND L-THEANINE BIOAVAILABILITY**

The bioavailability of L-theanine is limited to approximately 47 to 54 percent in ingested capsules and green and black tea, making high doses of L-theanine necessary to achieve therapeutic benefits.<sup>13,12</sup> Furthermore, conventional oral forms of GABA do not readily cross the blood-brain barrier.<sup>8</sup> Liposomal delivery systems may improve the bioavailability of GABA and L-theanine, allowing these nutraceuticals to produce quick and powerful calming effects.<sup>18</sup>

**Quicksilver Delivery Systems®** improve upon liposomal and emulsification technology with smaller, more stable particles made from the highest-grade ingredients available. In addition to exceptional absorption rates, these tiny liposomal and nanoemulsified particles increase diffusion across mucus membranes, enhance lymphatic circulation of nutrients and support cellular delivery.

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References available at [quicksilverscientific.com/gabareferences](https://quicksilverscientific.com/gabareferences)

WARNING: NOT FOR USE BY INDIVIDUALS UNDER THE AGE OF 18 YEARS. DO NOT USE IF PREGNANT, BREAST-FEEDING, OR PLANNING TO BECOME PREGNANT. KEEP OUT OF REACH OF CHILDREN. Consult a healthcare professional before use if you have any medical condition or are taking any other supplements or medications. Do not exceed recommended dosage. See [www.quicksilverscientific.com](https://www.quicksilverscientific.com) for additional safety information.

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