

GabaMax

MOOD & STRESS SUPPORT

MEMORY & COGNITION

SLEEP SUPPORT

#InnerBalance



FIND INNER BALANCE

INDICATION

GabaMax is a dietary supplement designed to support neurological and psychological well-being. It combines the neuro-modulatory effects of GABA with the calming influence of L-Glycine and the essential cofactor role of Vitamin B6, making it a targeted choice for individuals seeking to promote mental calmness, enhance cognitive function, and improve sleep quality.

KEY DELIVERABLES

GabaMax is formulated to modulate the stress response, enhance cognitive faculties, and facilitate sleep regulation. The product's efficacy in promoting mental tranquility positions it as a therapeutic adjunct in managing daily psychological stressors. It also seeks to augment cognitive performance by improving focus and mitigating excessive neural activity that can lead to attention deficits. Furthermore, GabaMax is conducive to sleep hygiene, potentially optimizing sleep architecture and contributing to the amelioration of sleep dysfunctions.

SYMPTOMS ASSOCIATED

Stress

Difficulty concentrating

Difficulty sleeping

Irritability

Fatigue

Social withdrawal

Nervous habits (e.g. nail biting, fidgeting)

Lack of motivation or interest

KEY INGREDIENTS:

GABA (gamma-aminobutyric acid), L-Glycine, Vitamin B6, Biotin, Pantothenic Acid

FORMAT

Unflavoured Powder (can be added to any beverage)

FUNCTIONAL BENEFITS



MOOD & STRESS SUPPORT

GABA (gamma-aminobutyric acid) serves as the central nervous system's chief inhibitory neurotransmitter, playing a pivotal role in diminishing neuronal excitability and maintaining neurochemical balance. This modulation is essential for tempering the neural response to stress, providing a buffering effect against overstimulation, and fostering a state of calm. Clinically, GABA supplementation has been associated with an attenuation of stress-related symptoms and promotion of relaxation.



MEMORY & COGNITION (BRAIN SUPPORT)

GABA's role extends beyond stress modulation to encompass cognitive functionality, where it aids in the enhancement of mental focus and the attenuation of distractibility. By mitigating hyperactive neuronal activity, GABA contributes to a more regulated cognitive environment, thereby fostering conditions conducive to improved memory retention, sustained attention, and a reduction in impulsive behavior.



SLEEP SUPPORT

Glycine, a non-essential amino acid, has been observed to exert a calming effect on the brain, which may facilitate the onset of sleep. It is posited to aid in lowering core body temperature, a physiological precursor to sleep initiation, enhancing overall sleep quality. Moreover, glycine supplementation has demonstrated potential in the mitigation of sleep disturbances, including the subjective experience of insomnia.

ACTIVE INGREDIENT

MECHANISM OF ACTION

GABA

Gamma-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter in the central nervous system, playing a pivotal role in reducing neuronal excitability throughout the nervous system. Upon release into the synaptic cleft, GABA binds to its receptors – principally GABA_A and GABA_B. Activation of GABA_A receptors, typically results in rapid, transient inhibitory effects by allowing the influx of chloride ions into neurons, leading to hyperpolarization and decreased ability to generate an action potential. GABA_B receptors are G-protein-coupled receptors that mediate slower, more prolonged inhibitory effects, largely through the inhibition of calcium channels and activation of potassium channels, which also results in neuronal hyperpolarization. By curbing neuronal activity, GABA contributes to various physiological functions, including reducing anxiety, promoting relaxation, and moderating stress responses.

L-Glycine

L-Glycine, a non-essential amino acid, serves as an inhibitory neurotransmitter in the central nervous system, particularly within the spinal cord and brainstem. It exerts its inhibitory action by binding to glycine receptors, which are chloride channels, leading to an increased influx of chloride ions into neurons, causing hyperpolarization and a decrease in neuronal firing. Glycine also modulates excitatory neurotransmission by enhancing the function of N-methyl-D-aspartate (NMDA) receptors, which are involved in learning and memory. Glycine's role in these processes underpins its potential utility in improving sleep quality and cognitive functions.

Vitamin B6

Vitamin B6, also known as pyridoxine, plays a multifaceted role in the GabaMax formulation. As a coenzyme, it is crucial for the metabolism of amino acids and neurotransmitters, including GABA, serotonin, and dopamine, which are directly implicated in mood regulation and stress response. The presence of Vitamin B6 in GabaMax enhances the efficacy of GABA by ensuring its optimal synthesis and function within the central nervous system. This vitamin is also involved in the synthesis of myelin, the sheath that covers nerve fibers and is essential for the propagation of nerve impulses, thus supporting neural communication and cognitive clarity.

Pantothenic Acid (B5)
(Vitamin)

In the GabaMax formulation, pantothenic acid serves to complement the stress-modulating effects of GABA by fortifying the body's resilience against stress at a biochemical level. As a component vital for the synthesis of coenzyme A (CoA), pantothenic acid is integral in energy production pathways, which are especially taxed during periods of stress. By bolstering the synthesis of essential neurotransmitters and stress-related hormones, pantothenic acid aids in the maintenance of cognitive function and supports the nervous system's response to daily stressors. It also plays a role in the production of acetylcholine, a neurotransmitter that facilitates brain signaling, which can be beneficial for memory retention and mental clarity — key aspects of cognitive health that GabaMax aims to support.

Biotin

Biotin's inclusion in GabaMax is strategic for its enzymatic role in maintaining steady metabolic processes that support brain health and function. It ensures that metabolic pathways responsible for creating energy from macronutrients are functioning optimally, which is crucial for the sustenance of cognitive processes during stressful times. Its contribution to the synthesis of fatty acids is also critical, as it supports the integrity of neuronal structures that facilitate cognitive functions and the regulation of mood. The vitamin's role in neurotransmitter activity further complements the action of GABA in GabaMax, fostering a state of calm and promoting a balanced mental state.

GABAMAX SUPPLEMENT FACTS

DIRECTIONS OF USE

Typical Nutritional Information

Serving size: 5g (2 level scoops)

(as packed)

Servings per container: 60

	Per 5g serving	Per 100g powder	%NRV*per serving
Energy (kJ)	8	156	-
Protein (g)	0.0	0.0	-
Glycaemic carbohydrates (g)	0.1	1.3	-
of which total sugar (g)	0.1	1.3	-
Total fat (g)	0.0	0.0	-
of which saturated fat (g)	0.0	0.0	-
Dietary Fibre** (g)	1.0	20.0	-
Total Sodium (mg)	0	0	-
GABA (mg)	500	10000	-
L-Glycine (mg)	3000	60000	-
Vitamin B6 (mg)	8.5	170.0	500%
Biotin (mcg)	30	600	100%
Pantothenic acid (mg)	25.0	500.0	500%

*NRV: South African Nutrient Reference Values for individuals 4 years and older.

** AOAC 2001.03 method of analysis

Ingredients: L-Glycine, Maize dextrin, GABA (Gamma Amino Butyric Acid), Calcium D-Pantothenate, Pyridoxine HCL, D-Biotin. **Allergens:** None added. Manufactured in a facility that handles soy, wheat, nuts and dairy.



2 LEVEL SCOOPS ADDED TO JUICE, WATER OR ANY BEVERAGE.



STIR WELL TO DISSOLVE.



1-2 SERVINGS DAILY. ANYTIME OR AS RECOMMENDED BY HEALTH PRACTITIONER.

REFERENCES

L-Theanine & GABA - Rao, T. P., Ozeki, M., & Juneja, L. R. (2015). **In Search of a Safe Natural Sleep Aid.** Journal of the American College of Nutrition, 34(5), 436-447.

GABA - Abdou, A. M., Higashiguchi, S., Horie, K., Kim, M., Hatta, H., & Yokogoshi, H. (2006). **Relaxation and immunity enhancement effects of gamma-aminobutyric acid (GABA) administration in humans.** BioFactors, 26(3), 201-208.

GABA - Petroff, O. A. (2002). **GABA and glutamate in the human brain.** Neuroscientist, 8(6), 562-573.

GABA - Yoto A, Murao S, Motoki M, Yokoyama Y, Horie N, Takeshima K, Masuda K, Kim M, Yokogoshi H. **Oral intake of γ-aminobutyric acid affects mood and activities of central nervous system during stressed condition induced by mental tasks.** Amino Acids. 2012 Sep;43(3):1331-7. doi: 10.1007/s00726-011-1206-6. Epub 2011 Dec 28. PMID: 22203366.

GABA - Levine J, Barak Y, Gonzalves M, Szor H, Elizur A, Kofman O, Belmaker RH. **Double-blind, controlled trial of inositol treatment of depression.** Am J Psychiatry. 1995 May;152(5):792-4. doi: 10.1176/ajp.152.5.792. PMID: 7726322.

GABA - Abdou AM, Higashiguchi S, Horie K, Kim M, Hatta H, Yokogoshi H. **Relaxation and immunity enhancement effects of gamma-aminobutyric acid (GABA) administration in humans.** Biofactors. 2006;26(3):201-8. doi: 10.1002/biof.5520260305. PMID: 16971751.

Kennedy DO. **B Vitamins and the Brain: Mechanisms, Dose and Efficacy** -A Review. Nutrients. 2016 Jan 27;8(2):68. doi: 10.3390/nu8020068. PMID: 26828517; PMCID: PMC4772032.

Hepsomali P, Groeger JA, Nishihira J, Scholey A. **Effects of Oral Gamma-Aminobutyric Acid (GABA) Administration on Stress and Sleep in Humans: A Systematic Review.** Front Neurosci. 2020 Sep 17;14:923. doi: 10.3389/fnins.2020.00923. PMID: 33041752; PMCID: PMC7527439.

Inagawa, K., et al. (2006). **Subjective effects of glycine ingestion before bedtime on sleep quality.** Sleep and Biological Rhythms, 4(1), 75-77.

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