# 200 mg of Zen

Natural Support for Reduction of Stress and Anxiety

Item # 74700
Available in bottles of 60 vegetarian capsules

## The Possible Benefits of 200 mg of Zen, a Dietary Supplement

- Maintains healthy emotional status
- Helps support a feeling of general relaxation without sedation
- Promotes effective resistance to adverse moods induced by hormonal changes

## Description

**200 mg of Zen** dietary supplement from Allergy Research Group® contains a significant quantity of both gamma-aminobutyric acid (GABA) and theanine (glutamic acid gamma-ethylamide), an amino acid derivative found naturally in green tea (Camellia sinensis).

**200 mg of Zen** provides a source of dietary ingredients that may provide stabilization of mood and a feeling of alert relaxation.

Research has shown that dietary components can modulate our body's levels of neurotransmitters, e.g. serotonin, dopamine, norepinephrine, and gamma-aminobutyric acid (GABA). Alterations in the levels of these neurotransmitters, perhaps induced by metabolic stress or vitamin deficiencies, e.g. vitamin B6, can significantly influence mood and emotional status, as well as motor function.

GABA is the major inhibitory neurotransmitter in the brain and is active at 20% of CNS synapses. As an inhibitory mediator in the brain, GABA, via its neuronal A receptor, inhibits neurons by causing an influx of chloride ions. The anxiolytic, muscle relaxant, and sedative effects of the benzodiazepines, e.g. Librium and Valium, rely upon the facilitation of this chloride influx initiated by GABA. There is evidence that anxiety and panic disorders are associated with excessive neuronal activity consequent to a decrease in GABA's function as an inhibitory mediator. The adverse psychological signs associated with premenstrual syndrome may be due to a dysregulated sensitivity of GABA receptors.

Studies with oral administration of sodium valproate (an enhancer of endogenous GABA activity) and the muscle relaxant Baclofen (an agonist of the GABA B receptor) demonstrate their ability to stimulate increased HGH levels. Theanine (glutamic acid gamma-ethylamide) an amino acid derivative found naturally in tea (*Camellia sinensis*) is also recognized as having calming properties.

Human studies have demonstrated that dietary theanine supplementation increases alpha wave activity, fostering a state of alert relaxation. Animal studies have also shown that administration of

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theanine regulates brain serotonin concentration by affecting either serotonin synthesis or degradation in the brain. It has been hypothesized that serotonin facilitates general and conditioned anxiety at the level of medial temporal lobe structures.

Although the calming effect of this tea component may seem contradictory to the stimulatory properties of tea's caffeine content, research suggests that theanine exerts an antagonistic effect on caffeine's stimulatory action.

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**Each (1) capsule contains:** 275 mg GABA (gamma aminobutyric acid)
100 mg L-theanine

**Other ingredients:** Silicon dioxide, carbowax.

**Suggested use:** As a dietary supplement, 1 to 2 capsules daily, between meals, or as directed by a healthcare practitioner.

**Warning:** Contraindicated with drugs or use only under the supervision of a healthcare practitioner.

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**References**


Anderson IM, Mortimore C. 5-HT and human anxiety. Evidence from studies using acute tryptophan depletion. Adv Exp Med Biol 1999;467:43-55.

Benton D, Donohoe RT. The effects of nutrients on mood. Public Health Nutr 1999;2:403-9.

Eghbali M, Curmi JP, Birnir B, et al. Hippocampal GABA(A) channel conductance increased by diazepam. Nature 1997;388:71-5.

Goddard AW, Mason GF, Almai A, et al. Reductions in occipital cortex GABA levels in panic disorder detected with 1h-magnetic resonance spectroscopy. Arch Gen Psychiatry 2001;58:556-61.

He P, Wada S, Watanabe N, et al. Liver injury-preventive effect of tea theanine in rats. J of Food Sci, 2000;65:30-33.

Juneja L, Chu D, Okuba T. L-Theanine - a unique amino acid of green tea and its relaxation effect in humans. Trends Food Sci Tech 1999;10:199-204.

Kakuda T, Nozawa A, Unno T, et al. Inhibiting effects of theanine on caffeine stimulation evaluated by EEG in the rat. Biosci Biotechnol Biochem 2000;64:287-93.

Kakuda T, Yanase H, Utsunomiya K, et al. Protective effect of gamma-glutamylethylamide (theanine) on ischemic delayed neuronal death in gerbils. Neurosci Lett 2000;289:189-92.

Kimura R, Murata T. Effect of theanine on norepinephrine and serotonin levels in rat brain. Chem Pharm Bull (Tokyo) 1986;34:3053-7.

Lombard CB. What is the role of food in preventing depression and improving mood, performance and cognitive function? Med J Aust 2000;173 Suppl:S104-5.

Markus CR, Panhuysen G, Tuiten A, et al. Does carbohydrate-rich, protein-poor food prevent a deterioration of mood and cognitive performance of stress-prone subjects when subjected to a stressful task? Appetite 1998;31:49-65.

Moore P, Gillin C, Bhatti T, et al. Rapid tryptophan depletion, sleep electroencephalogram, and mood in men with remitted depression on serotonin reuptake inhibitors. Arch Gen Psychiatry 1998;55:534-9.

Paul SM, Marangos PJ, Skolnick P, et al. Biological substrates of anxiety: benzodiazepine receptors and endogenous ligands. Encephale 1982;8:131-44.

Paz A, Berry EM. Effect of meal composition on alertness and performance of hospital night-shift workers. Do mood and performance have different determinants? Ann Nutr Metab 1997;41:291-8.

Petty F, Trivedi MH, Fulton M, et al. Benzodiazepines as antidepressants: does GABA play a role in depression? Biol Psychiatry 1995;38:578-91.

Prasad C. Food, mood and health: a neurobiologic outlook. Braz J Med Biol Res 1998;31:1517-27.

Sadzuka Y, Sugiyama T, Sonobe T. Efficacies of tea components on doxorubicin induced antitumor activity and reversal of multidrug resistance. Toxicol Lett 2000;114:155-62.

Shiah IS, Yatham LN. GABA function in mood disorders: an update and critical review. Life Sci 1998;63:1289-303.

Sugiyama T, Sadzuka Y. Enhancing effects of green tea components on the antitumor activity of adriamycin against M5076 ovarian sarcoma. Cancer Lett 1998;133:19-26.

Sugiyama T, Sadzuka Y, Tanaka K, et al. Inhibition of glutamate transporter by theanine enhances the therapeutic efficacy of doxorubicin. Toxicol Lett 2001;121:89-96.

Sundstrom I, Ashbrook D, Backstrom T. Reduced benzodiazepine sensitivity in patients with premenstrual syndrome: a pilot study. Psychoneuroendocrinology 1997;22:25-38.

Unno T, Suzuki Y, Kakuda T, et al. Metabolism of theanine, gamma-glutamylethylamide, in rats. J Agric Food Chem 1999;47:1593-6.

Verger P, Lagarde D, Batejat D, et al. Influence of the composition of a meal taken after physical exercise on mood, vigilance, performance. Physiol Behav 1998;64:317-22.

Vescovi PP, Volpi R, Coiro V. Alcoholism abolishes the gamma-aminobutyric acid (GABA)ergic control of GH secretion in humans. Alcohol 1998;16:325-8.

Wells AS, Read NW, Laugharne JD, et al. Alterations in mood after changing to a low-fat diet. Br J Nutr 1998;79:23-30.

Yokogoshi H, Kato Y, Sagesaka YM, et al. Reduction effect of theanine on blood pressure and brain 5- hydroxyindoles in spontaneously hypertensive rats. Biosci Biotechnol Biochem 1995;59:615-8.

Yokogoshi H, Kobayashi M. Hypotensive effect of gamma-glutamylmethylamide in spontaneously hypertensive rats. Life Sci 1998;62:1065-8.

Yokogoshi H, Mochizuki M, Saitoh K. Theanine-induced reduction of brain serotonin concentration in rats. Biosci Biotechnol Biochem 1998;62:816



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