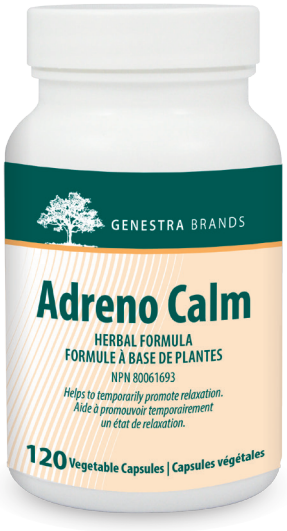
GENESTRA BRANDS

Adreno Calm

HERBAL FORMULA



Calming combination of herbal extracts, L-theanine and phosphatidylserine

- Helps to temporarily promote relaxation
- Provides 200 mg each of L-theanine and ashwagandha root std. extract per day
- Includes 150 mg of magnolia bark std. extract and 50 mg of phosphatidylserine per day

GENESTRA BRANDS Adreno Calm is a calming combination of L-theanine, phosphatidylserine and herbs. L-Theanine is an amino acid present almost exclusively in tea that helps to temporarily promote relaxation.[1] It is quickly absorbed from the intestines into the blood, where it is transported to important organs, including the brain.[1] By mediating the release of neurotransmitters - including dopamine, GABA and serotonin – L-theanine effectively promotes a state of relaxation.[2] Clinical research demonstrates that supplementation with 200 mg of L-theanine significantly increases alpha waves in the brain within 30 minutes of intake, an indication of a relaxed but alert mental state.[3] L-Theanine has been shown to promote relaxation when consumed at rest, after stressful mental tasks, and after exhaustive exercise tests.[3,4] Phosphatidylserine is a naturally occurring component of cell membranes, and supports normal cellular communication and membrane fluidity.[5,6] Adreno Calm also includes standardized extracts from magnolia and ashwagandha, plants used in traditional Chinese and Ayurvedic medicine, respectively.[7,8]

EACH CAPSULE CONTAINS

L-Theanine (Suntheanine®■)	100 mg ♦
Ashwagandha (Withania somnifera) Root Std. Extract (7% Withanolides)	100 mg ♦
Magnolia (*Magnolia officinalis*) Bark Std. Extract (5% honokiol)	75 mg ♦
Phosphatidylserine (from soy lecithin)	25 mg ♦

Non-Medicinal Ingredients: Hypromellose, cellulose, silica, ascorbyl palmitate

■ Suntheanine® is a registered trademark of Taiyo International, Inc.

Recommended Adult Dose: Take two capsules daily or as recommended by your healthcare practitioner.

Product Size: 120 vegetable capsules **Product Code:** 07332

NPN 80061693

GLUTEN FREE VEGAN DAIRY FREE

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Scientific Rationale:

L-Theanine is a unique amino acid that is found almost exclusively in the Camellia plant genus, which includes the tea-producing Camellia sinensis.1 Once consumed, L-theanine quickly crosses the blood-brain barrier and affects the central nervous system by mediating the levels of inhibitory and excitatory neurotransmitters in the brain; this alters the activity of certain brain functions as well as mood states.[2] L-L-Theanine increases the levels of dopamine (associated with the reward pathway), serotonin (regulates emotion and mood), and GABA (the primary inhibitory neurotransmitter).[2,3] L-Theanine also decreases the levels of glutamate (the primary excitatory neurotransmitter) and norepinephrine (associated with hyperactivity in times of stress).[2] In addition to measuring differences in mood scores following L-theanine supplementation, clinical studies have used electroencephalography (EEG) to determine changes in alpha brain wave activity after L-theanine intake; this is because alpha brain waves indicate a state of wakeful relaxation.[4]

In a clinical trial involving 35 healthy participants, L-theanine intake significantly increased alpha wave production. Participants consumed either a placebo or L-theanine treatment (50 mg of L-theanine), and alpha wave activity was measured using EEG. The EEG measurements began 45 minutes after the treatment was consumed, and continued every 15 minutes for one hour. L-theanine treatment significantly increased the alpha wave activity in the brain, demonstrating the ability of L-theanine to cause a relaxed and alert mental state.[5]

Similarly, a double-blind, placebo-controlled, crossover trial involving healthy adults found that L-theanine supplementation significantly promoted relaxation during a resting state. Participants were randomized to consume a placebo, L-theanine (200 mg of L-theanine) or alprazolam (1 mg of alprazolam) treatment. As per the crossover design, three testing sessions were completed for each participant with a one week washout period between each test. Before consuming each test product, participants completed questionnaires that measured their mood. The test products were then administered, and two and a half and five hours later, participants completed a task along with the original questionnaires. The task involved focusing the participants' gaze on a computer monitor and concentrating on their current feelings. When compared to the other two treatments, L-theanine significantly promoted feelings of calmness under resting conditions.[6]

In a randomized, placebo-controlled, double-blind trial, L-theanine supplementation significantly promoted relaxation in male undergraduate students. After a 20 minute rest period, a mental arithmetic task was conducted for 20 min, followed by two 10 minute rest periods. Salivary immunoglobulin A (s-IgA) levels and heart rate were measured at the end of each period to determine stress responses. The study was repeated four times: 1) 200 mg of L-theanine provided at baseline; 2) 200 mg of L-theanine provided after the initial 20 minute rest period; 3) placebo treatment at baseline; 4) no administration of any treatment and rest periods instead of the mental task period. Both treatments with L-theanine significantly increased feelings of relaxation and decreased heart rate when compared to the placebo values. Additionally, although s-IgA levels were raised in the placebo group, no differences were observed between the other three groups. Therefore, both subjective perceptions of stress and physiological stress responses (heart rate and s-IgA levels) induced by an acute stress task (mental arithmetic task) were decreased by L-theanine treatment.[7]

In a randomized, cross-over, placebo-controlled trial involving 16 healthy adult participants, a single dose of L-theanine significantly improved calmness ratings and attenuated increases in systolic blood pressure (BP) in response to psychological and physical stress load tests. Subjective mood state ratings were obtained at baseline using the Profile of Mood States (POMS) questionnaire. Participants were then randomized to receive either a placebo or L-theanine capsule (containing 200 mg of L-theanine). After treatments were consumed, participants completed a series of psychological stress load tests (including mental arithmetic tasks) and a physical stress test (participants immersed their right hand for 1 minute in a bucket of ice water). Participant BP was recorded at baseline and following

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completion of the mental tasks. Upon the completion of the tests, participants repeated the POMS questionnaire, underwent a 7-day washout period, and then crossed over to the other treatment. Compared with baseline measurements, participants' scores on the Tension subset of the POMS questionnaire were significantly improved following L-theanine supplementation, but not following placebo treatment. Changes in BP were analyzed after dividing half of the participants into either a low-responder group, and half of participants into a high-responder group. Participants in the high-responder group showed large increases in systolic BP after completing the mental tasks; however, compared to the placebo, L-theanine supplementation significantly inhibited the increase in systolic BP following completion of the mental tasks; this further demonstrates the ability of L-theanine to promote relaxation.[8]

L-Theanine and Caffeine:

Many clinical trials evaluating the effects of L-theanine on mood include dosages between 150 and 250 mg of L-theanine.[1] *It is difficult to consume these amounts of L-theanine normally in the diet, as individuals would need to drink between nine and 15 cups of tea daily.*[1] *Additionally, as caffeine in tea can result in irritations of the gastrointestinal tract or sleeplessness in some individuals, L-theanine supplements are convenient ways to achieve high dosages of L-theanine without potential adverse effects from caffeine.*[1] *Recent research has also determined that L-theanine antagonizes the stimulatory effects of caffeine, including attenuating the caffeine-induced rise in BP.*[9,10]

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