



Adrenal-Build Formula Monograph



Adrenal-Build is composed of dietary supplements that help support adrenal function and to decrease the negative effects of stress, including exercise-induced adrenal stress. *Adrenal-Build* contains herbal extracts that help balance cortisol levels, improve cellular energy production, decrease oxidative stress, improve immune system response and support metabolism. *Adrenal-Build* is tailored to those with an active lifestyle that need a reliable source of energy while managing the effects of stress.

Ingredients:

Supplement Facts			
Serving Size: 2 Capsules Servings Per Container: 30			
Nutrient	Amount Per Serving	% Daily Value	Formula Use(s)
Methylcobalamin Vitamin B12	200 mcg	3333 %	 Essential B vitamin Important in nerve development and protection Stress reported to deplete reserves of B12 Helps improve methylation and decreases inflammation
Vitamin C (as ascorbic acid)	500 mg	833 %	 Antioxidant Helps support adrenal function during increased stress Helps support immunity

Pyridoxal 5'-phosphate (Vitamin B6)	40 mg	2000 %	 Vitamin B6 Important in energy production and neurotransmitter synthesis Helps improve methylation and decrease inflammation
Proprietary Blend	700 mg	*	
Adrenal Concentrate		*	 Adrenal and Metabolic Support Helps balance cortisol Helps decrease fatigue
Rhodiola (<i>Rhodiola rosea</i>) root Standardized to 5% rosavins		*	 Adaptogen Helps support memory, stamina and energy Reported to help improve physical performance Antioxidant, including exercise-induced oxidative stress
* Daily value not established.			

Recommended Uses:

Helps support energy and stamina, especially if under chronic stress or a heavy exercise regimen

Recommended Dosages:

2 capsules, 2 times daily.

Product Overview:

Adrenal insufficiency refers to the inability of the adrenal glands to produce a normal amount of hormones, which leads to a reduced ability in the individual to cope with stress. The adrenal glands and the production of adrenal hormones are regulated by the hypothalamic-pituitary-adrenal (HPA) axis. The HPA axis exerts effects upon the inflammatory immune response as well due to glucocorticoid activity, which can lead to immune shifts towards Th2 dominance causing increased inflammation, immune imbalances, sleep disturbances, candidiasis, allergies and even cancer.^{1,2,3}

The adrenal glands produce the "stress" hormone cortisol, and during chronic stress, the excessive release of cortisol can eventually lead to changes in cortisol production. Cortisol follows a normal circadian release and is important in regulating blood glucose and maintaining healthy immune function, cardiovascular function, fertility, and overall physical and mental stamina. Cortisol is also involved in regulation of the metabolism of proteins, carbohydrates, and fats, as it stimulates the liver to raise the blood sugar as needed, in response to metabolic demands, physical activity, and stress. Increased cortisol output from the adrenals can lead to metabolic imbalances, including fatigue, weight gain, decreased immunity, imbalances in blood glucose and insulin regulation, thyroid and sex hormone imbalances, increased inflammation and cardiovascular imbalances.^{4,5,6,7}

Increase stress can lead to imbalances of the cortisol to DHEA ratio, which is important in maintaining memory. DHEA (dehydroepiandosterone) is a pro-hormone produced in the adrenals and in the ovaries in females that is involved in the manufacture of the sex hormones testosterone and estrogen.

Studies have reported that moderate to high intensity exercise provokes increases in circulating cortisol levels.⁸ Overtraining Syndrome (OS) has been linked with adrenal insufficiency.⁹ Elevated cortisol leads to loss of minerals, changes in blood glucose, sleep pattern disturbances, blood pressure and heart rate variability, loss of bone density and mood alteration. All of the above mentioned symptoms are also associated with over reaching and overtraining in athletes.

Adrenal-Build contains supportive nutrients for the adrenal gland, including vitamin C, vitamin B6 and B12. The herb rhodiola (*Rhodiola rosea*) is included as an adaptogen, helping the body cope with increased stress by increasing energy and stamina and improving immune and inflammatory responses. *Adrenal-Build* also contains an extract of Argentinian cattle adrenal glandular tissue, which helps support the adrenal glands and help decrease adrenal fatigue.

Supporting Research: Vitamin C (Ascorbic Acid)

The physiologic response to stress is coordinated by the pituitary gland, which secretes trophic hormones in response to central nervous system input from the hypothalamus. The essential adrenocorticotrophic hormone (ACTH) secreted by the pituitary gland stimulates adrenal glands to synthesize and secrete

- Antioxidant
- Supports adrenal function
- Decreases physiological effects of stress and cortisol on the body

cortisol. In animals, ACTH also causes vitamin C loss from adrenals.^{10,11} The adrenal glands have one of the highest tissue levels of ascorbic acid in the body, with concentrations as high as 10 mmol/L.¹² Humans, unlike most animals, cannot synthesize vitamin C and instead must obtain it from diet or by supplementation.

Vitamin C is reported to decrease oxidative stress associated with stress and anxiety and may decrease the effects of stress on psychological behavior.^{13,14}

Rhodiola (Rhodiola rosea) root

- Adaptogen
- Helps support memory, stamina and energy
- Reported to help improve physical performance
- Antioxidant, including exercise-induced oxidative

Rhodiola has been used in Tibetan medicine to strengthen the lungs and circulatory system, to ease fevers, and as a general tonic for increased energy.

stress

The Vikings praised the herb for providing extended physical energy, mental endurance and reduced stress.

Scientific research indicates that Rhodiola may increase strength and physical performance by supporting the body's formation of the high-energy molecules required by muscle cells to carry out increased workloads. Rhodiola enhances stamina and supports endurance by supporting improved oxygen utilization and muscle growth, and induces faster recovery from exertion by encouraging the body's natural tissue repair process.¹⁵ Moreover, it helps fight fatigue, providing the endurance required when coping with periods of continuous mental, emotional and/or physical stress.

Scientific studies have reported that Rhodiola acts by helping to balance the hypothalamic-pituitary-adrenal (HPA) axis of the body's stress response system. Under stressful circumstances, the normal function of the HPA axis can become impaired, causing excessive production of the stress hormone cortisol.¹⁶ Rhodiola is reported to help the body fight exercise related fatigue and stress through cortisol modulation associated with the HPA axis.

A 2009 phase III clinical trial reported that a standardized rhodiola extract had antifatigue activity that increases mental performance, particularly the ability to concentrate, and decreases cortisol response to awakening stress in burnout patients with fatigue syndrome.¹⁷ An extract of rhodiola in combination with vitamins/minerals was administered to 120 adults aged 50-89 years and reported to improve cognition in 81% of patients.¹⁸ Rhodiola has also been reported to increase exercise endurance and performance in humans (n=18 and n=24)).^{19,20}

A review of the clinical studies supporting the effectiveness of rhodiola supplements was conducted in 2011.²¹ Eleven randomized, placebo-controlled human studies were investigated. It was reported that rhodiola supplements may have beneficial effects on physical performance, mental performance, and mental health conditions like depression. The authors concluded that more research seems warranted.

Vitamin B12 as methylcobalamin

Methylcobalamin (an active form of vitamin B12) is essential for recycling homocysteine and the formation of methyl donors involved in cardiovascular function, sleep, blood cell formation, and neurological function. B12 is important in energy production and metabolism.

- B vitamin
- Important in carbohydrate utilization for energy and metabolism
- Important in nerve function
- Reported low in chronic stress/adrenal fatigue

Pyridoxal-5'-Phosphate (P-5-P)

B6 is an essential co-factor for glycogen phosphorylase and certain enzymes in the alanine-glucose cycle that help produce energy.²² Clinical studies have report improved fuel reserves during exercise when using B6 supplements.²³ Pyridoxal 5'-phosphate is a form of vitamin B6 that has improved bioavailability and clinical utility.

Adrenal Concentrate

Adrenal-Build contains an extract of Argentinian cattle adrenal glandular tissue. Raw tissue concentrates imported from Argentina are made from toxin-free lyophilized glands from animals grazed on rangeland free of pesticides. Argentina has no reports of bovine spongiform encephalopathy (BSE) in cattle.

• Vitamin B6

- Important in carbohydrate utilization for energy and metabolism
- Important in nerve function
- Reported low in chronic stress/adrenal fatigue
- Argentinian Bovine Glandular extract
- Adrenal support
- Helps balance cortisol levels and reduce effects of stress on the body

Toxicity, Contraindications, or Side Effects: There is no known toxicity or side effects from taking ingredients found in *Adrenal-Build*. Talk with your doctor or pharmacist before taking *Adrenal-Build* if you are taking prescription or non-prescription medications.

DISCLAIMER: Statements made are for educational purposes and have not been evaluated by the US Food and Drug Administration. They are not intended to diagnose, treat, cure, or prevent any disease.

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