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This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners ("Practitioners"). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing, and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.

Adrenotone™ includes adaptogenic and adrenal tonic herbs and nutrients in order to help the body's adaptation to stress and to support adrenal gland health.*¹ It is designed to help support healthy cortisol levels, hypothalamic and pituitary function, and catecholamine production (dopamine, norepinephrine, and epinephrine).* It also helps address depletions common to those suffering from the effects of chronic stress.* Chronic stress can alter levels of cortisol and catecholamines, in addition to causing the depletion of a host of micronutrients.² Cortisol increases have vast effects over serum blood glucose and insulin levels, inducing dysglycemia and laying the foundation for metabolic syndrome.³

Adrenotone™ contains a blend of standardized botanicals including eleuthero, American ginseng, ashwagandha, rhodiola, and licorice root, all known to be tonifying and rejuvenating to the adrenal glands.* The ginseng family of herbs possesses a unique property of aiding in the regeneration and enhanced function of hypothalamic cortisol receptors, providing an amphoteric effect that allows the body to better self-regulate cortisol levels.⁴ N-acetyl L-tyrosine, the most bioavailable form of tyrosine, is included as a critical building block of various neurotransmitters, thyroid hormones, and catecholamines, which are often depleted under chronic stress conditions.⁵ Also included are vitamin C, pantothenic acid (B5), vitamin B6 (as pyridoxal-5-phosphate [P-5-P]), and vitamin B2 (as riboflavin-5-phosphate [R-5-P]), which play critical roles as enzyme cofactors in the balanced production of stress hormones.⁵

Formula Highlights

- A synergistic combination of standardized adaptogenic herbs and nutrients that are known to contribute to rejuvenating the adrenals*
- Features key vitamins to support healthy stress responses*
- Gluten-free, dairy-free, and soy-free; non-GMO

Eleuthero (*Eleutherococcus senticosus*), also known as Siberian ginseng, has been used traditionally for the relief of fatigue and weakness and is commonly used today for its adaptogenic and central nervous system-stimulating properties, along with its abilities to support healthy glucose metabolism and immune system function.⁶⁻⁸ Eleutheroside E (EE), one of its most bioactive phenolic compounds, has been shown in human studies to be significantly effective in mild-to-moderate chronic fatigue and significantly improved sleep, well-being, appetite, stamina, mood, and cognitive function in subjects with neurosis (and was generally well tolerated).⁶ EE, which is structurally similar to catecholamines (mediators of the sympathoadrenal system), has demonstrated the ability to help reduce physical fatigue and enhance physical endurance and performance.^{8,9} The phytosterol glycosides, such as eleutheroside A, structurally resemble corticosteroids that imitate stress hormones helping protect against overactivation of the hypothalamic-pituitary-adrenal (HPA) axis (i.e., stress).⁹

American Ginseng (*Panax quinquefolius*), standardized to contain 5% ginsenosides, is clinically beneficial, yet the least stimulating of the ginsengs.* In traditional Chinese medicine (TCM), ginseng is commonly used for fatigue and depression-related disorders.^{10,11} High levels of glucocorticoids and stress-induced hyperactivity of the HPA axis may lead to or worsen metabolic and/or psychiatric conditions. In an animal model exposed to chronic unpredictable mild stress (CUMS), ginsenoside demonstrated antidepressant-like effects via modulating the hypothalamic-pituitary-adrenal-gonadal axes and increasing brain-derived neurotrophic factor in brain tissues.^{10,12} Ginsenoside Rg1 decreased serum corticosterone levels, and increased serum testosterone, glucocorticoid receptors, and androgen receptors in CUMS-model mice.¹² In an animal model of post-traumatic stress disorder (PTSD), ginsenoside Rg2 normalized the serotonergic system and HPA axis dysregulation by blocking decreased hormone levels, attenuating much of the anxiety and depression associated with PTSD.¹³ Furthermore, chronically elevated cortisol levels can often lead to dysglycemia and decreased insulin sensitivity; and saponins, particularly the ginsenosides, have been shown in randomized controlled trials to promote healthy glucose and insulin metabolism and secretion, which plays a critical role in overall stress and hormonal balance.¹⁴

Benefits*

- Supports adrenal gland health.^{1,10,12,15}
- Supports healthy stress responses.^{4-5,9,14-17}
- Promotes healthy cortisol metabolism.^{4,9,18,19}
- Supports healthy catecholamine production.^{5,8-9}

Supplement Facts

Serving Size 3 capsules Servings Per Container 60	
Amount Per Serving	% Daily Value
Vitamin C (as Ascorbic Acid)	100 mg 111%
Riboflavin (Vitamin B-2) (as Riboflavin-5-Phosphate)	5 mg 385%
Vitamin B-6 (as Pyridoxal-5-Phosphate)	5 mg 294%
Pantothenic Acid (as d-Calcium Pantothenate)	250 mg 5000%
Eleuthero (<i>Eleutherococcus senticosus</i>) (root)(standardized to contain 0.8% eleutherosides)	250 mg *
American Ginseng (<i>Panax quinquefolius</i>) (root)(standardized to contain 5% ginsenosides)	100 mg *
Ashwagandha (<i>Withania somnifera</i>) (root and leaf)(standardized to contain 1.5% withanolides)	100 mg *
Rhodiola (<i>Rhodiola rosea</i>)(root)	100 mg *
N-Acetyl L-Tyrosine (standardized to contain 3% rosavins and 1% salidroside)	75 mg *
Licorice (<i>Glycyrrhiza glabra</i>)(root)	20 mg *

*Daily Value not established.

Other Ingredients: Microcrystalline cellulose, cellulose (capsule), vegetable stearate.

Ashwagandha (*Withania somnifera*), also known as Indian ginseng (though not technically part of the ginseng family), is a well-researched adaptogenic herb that has been used and revered in the Ayurvedic system of medicine for centuries to promote balance and homeostasis within the body and to counteract the negative effects of stress.¹⁵ It grows in a wide range of habitats and contains a diverse array of bioactive phytochemical constituents, such as withanolides and alkaloids, that contribute to its powerful adaptogenic properties. Ashwagandha is known to help the body successfully adapt to stressful conditions, and has been shown in research to have significantly favorable mental and physiological effects in humans.¹⁶ In a human clinical trial, individuals receiving full-spectrum ashwagandha root extract supplementation demonstrated a significant reduction in stress parameters and cortisol levels in the treatment group compared to controls, suggesting such supplementation (which was generally well-tolerated) may help support an individual's self-assessed quality of life.¹⁶

Rhodiola (*Rhodiola rosea*), or roseroot, is another adaptogenic herb that is well-researched and shown to be clinically beneficial for improving physical and mental fatigue, stress-induced chronic fatigue, and supporting attention and healthy mood in humans.⁹ The demonstrated neuroprotective activity of rhodiola's active principle, salidroside, was shown to reduce stress-induced disorders related to neurological-endocrine-immune systems via various mechanisms including balancing the HPA axis, stimulating the central nervous system, and potentially mitigating against the adverse effects of oxidative stress.^{9,17} The rhodiola in Adrenotone™ is standardized to contain 3% rosavins and 1% salidroside, the same percentage and ratio found in the natural root. It is sustainably harvested at high altitudes from the Siberian mountains, which is where the majority of rhodiola is sourced from for research studies.

Licorice root (*Glycyrrhiza glabra*), potentiates and extends the serum life of cortisol, thereby potentially lessening the demand on the adrenal cortex during stressful conditions.¹⁸ When the mineralocorticoid bioactive, glycyrrhetic acid, was administered for 3 to 10 days in healthy young normotensive subjects, urinary free cortisol was elevated, but plasma cortisol was unchanged, demonstrating that licorice root inhibits 11 beta-dehydrogenase activity and may help to block the conversion of cortisol to cortisone.¹⁹

Recommended Use: Take three capsules per day with meals, or as directed by your health-care practitioner (divided dosing recommended).

Warning: Use with caution with patients who are pregnant or lactating, or with those who have hypertension, diabetes, or have had kidney or liver disorders.

Advise patients to discontinue use and consult you if they experience sleeplessness, headache, or heart palpitations when using Adrenotone™.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---adrenotone-tech-sheet-references>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

***These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.**

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