Adrenergyn

Herbal HPA Axis Optimizer | VA-090 / VA-901

VitaAiD® Professional Therapeutics

Key Features:

- Features ***Cordyceps sinensis*** **Cs-4** to help **modulate cortisol levels & restore circadian rhythm**
- Synergized with **Ashwagandha, Eleuthero**, and **Rhodiola** to **promote T4-T3 conversion, increase O2 utilization**, and **enhance stamina**
- Helps improve **restless sleep, fatigue**, and **cognitive decline** from chronic stress
- Uses highly concentrated **carrier-free** herbal extracts (**4,070 mg dried herb equivalent**/capsule)

Indications: For people suffering from stress, insomnia/ restless sleep, general tiredness, or declined cognitive ability and lowered immune function due to HPA Axis Dysregulation.

Description:

Cortisol is one of the major tools the body uses to counteract adverse effects from stress; its levels are regulated predominantly by the Hypothalamas-Pituitary-Adrenal (HPA) axis. Normally, our cortisol levels rise and fall throughout the day, following a circadian rhythm. The diurnal cortisol levels are relatively high to help maintain alertness and cognitive function while the nocturnal levels are low to promote relaxation and sleep.

The HPA Axis is activated upon receiving stress signals. The paraventricular nucleus (PVN) of the hypothalamus would first secrete corticotropin releasing factor (CRF) and arginine vasopressin (AVP), which in turn would stimulate the anterior pituitary to secrete adrenocorticotropic hormone (ACTH). ACTH then binds to the adrenal cortex to promote the release of cortisol to help the body cope with stress.

To protect against prolonged activity of the adrenals, the secretions of CRF, AVP, and ACTH are precisely controlled by cortisol via the binding of two types of receptors - mineralocorticoid (MR) and glucocorticoid (GR) receptors. Cortisol has higher binding affinity for the mineralocorticoid receptors (MRs) than the glucocorticoid receptors (GRs). This difference in affinity allows the MRs to closely maintain the circulating cortisol levels relatively low for normal daily activity. Only when the cortisol concentration is high in response to stress does it bind to the GRs to keep the HPA axis from becoming too overactive. (Figure 1)

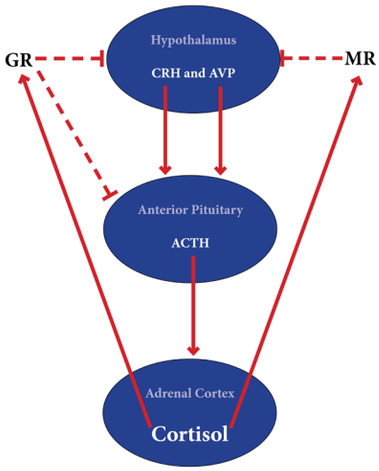


Figure 1. Auto-modulation of the HPA Axis

Quantity: 84 Vegetarian Capsules

Ingredients (per capsule):
(Each capsule contains **4,070 mg** Dried Herb Equivalent)
Rhodiola Extract (*Rhodiola rosea*) (10:1) (root).....75 mg
(3% rosavins, 1% salidroside) (equivalent to 750 mg dried herb)
Cordyceps Extract (8:1) (*Cordyceps sinensis* Cs-4).....200 mg
(mycelium) (7% cordycepic acid)
(equivalent to 1,600 mg dried herb)
Eleuthero Extract (10:1) (*Eleutherococcus senticosus*).....70 mg
(root) (0.8% eleutherosides) (equivalent to 700 mg dried herb)
Ashwagandha Extract (6:1) (*Withania somnifera*).....170 mg
(root) (7% withanolides) (equivalent to 1,020 mg dried herb)
Vitamin B5 (from d-calcium pantothenate).....10 mg

Non-medicinal Ingredients: Silicon dioxide, L-leucine, hypromellose (capsule)

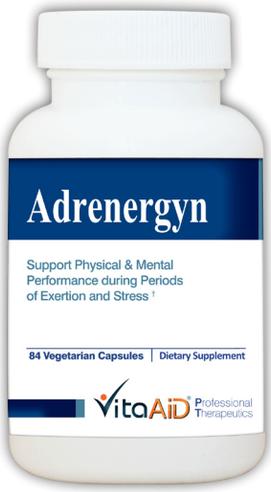
Suggested Use: Take 3 capsules daily, preferably before meals, or as directed by a health care practitioner.

This delicate negative feedback mechanism maintains the secretion of ACTH and cortisol within a relatively narrow bandwidth. However, when it fails to function properly, the HPA axis progresses through stages of dysregulation resulting in symptoms, such as insomnia/restless sleep, general tiredness, or declined cognitive ability and lowered immune function.

Adrenergyn balances alert-rest cycles via modulation of HPA axis, alleviates mental and physical fatigue, and provides invigorating effects against general debility during convalescence or old age by increasing oxygen utilization in the body, scavenging free radicals that cause oxidative stress, enhancing ATP generation, and most importantly, regulating adrenal hormone balance.

Rhodiola

Rhodiola is an adaptogen which increases the body's resistance to a wide range of stressors, whether chemical, physical, or biological. It affects multiple systems in the body to promote emotional well-being, mental clarity/ sharpness, and physical endurance. Moreover, it is suggested that rhodiola works to support adrenal function by preventing the depletion of adrenal catecholamines and



regulating catecholamine release induced by acute stress, as well as facilitating the transport of neurotransmitters within the brain.[2]

A study evaluated the stimulant and adaptogenic effects of *Rhodiola rosea* extract on the capacity for mental work against a background of fatigue and stress.[3] A group of students were given 100 mg of rhodiola extract daily for a total of 20 days during exam period. The most significant improvements in the active group was seen in physical fitness, mental fatigue, and neuro-motoric tests. Self-assessed general well-being was also significantly better in the treatment group than the placebo group.

Cordyceps Cs-4 (*Cordyceps sinensis)* has been studied extensively regarding its adaptogenic and anti-senescence effect. It has been used in Traditional Chinese Medicine (TCM) to alleviate fatigue, cold, dizziness, low libido, and frequent nocturia. The cordyceps Cs-4 strain is the first "Class I" TCM approved by the Chinese Ministry of Health. Class I TCMs are rigorously evaluated for safety and efficacy in pharmacology, toxicology, and clinical trials. There are numerous strains of *Cordyceps sinensis* but the Cs-4 strain has been proven to contain pharmacologically active and effective components.

Cs-4 has been shown in both human and animal studies to support the body's antioxidant enzyme superoxide dismutase (SOD). Being an excellent antioxidant itself, cordycepic acid - the active constituent - is also capable of lowering lactic acid accumulation, increasing oxygen utilization, and promoting ATP generation in the metabolic process of the mitochondria, resulting in improved physical work capacity. Moreover, cordyceps has been found to enhance immune functions, such as phagocytosis of macrophages, natural killer (NK) cell activity, and anti-tumor mechanisms.

In a clinical trial assessing the anti-fatigue effect of *Cordyceps sinensis* extract on 36 subjects,[4] two weeks of cordyceps supplementation yielded a significant increase on the post-exercise levels of adrenaline, noradrenaline, and dopamine in the subjects of the experimental group. The results also showed that the subjects ingesting cordyceps extract recovered faster from intense exercises, based on the reduction of lactic acid accumulation.

Eleuthero (*Eleutherococcus senticosus*), also known as Siberian ginseng, is traditionally used to relieve general debility and restlessness, as well as to improve memory and stamina. It has been widely used by athletes to increase stamina, performance and concentration.

Numerous studies have been done on Eleuthero over the years. One particular study reported that eleuthero supplementation improved the ability to perform physical labour, the quality of proofreading, the speed and quality of work by telegraphers in noisy conditions, and the number of days lost to sickness among factory workers.[5] Eleuthero extract can also reduce cardiovascular response to stress, reducing heart rate and systolic blood pressure during stress by 40-60% after 30 days of treatment,[6] and enhance cellular defense and physical fitness, as well as lipid metabolism.[7]

Ashwagandha (*Withania somnifera*) is traditionally used in Ayurvedic medicine to relieve general debility, especially during convalescence or old age, to balance aggravated "*Vata*" (nervine tonic), and to enhance memory. It is suggested that ashwagandha may influence adrenal hormone activity by supporting normal hypothalamic-pituitary-adrenal (HPA) axis function and T4-T3 conversion. Ashwagandha also interacts with areas of the brain, spinal cord, and central nervous system as recent research suggests that ashwagandha enhances cholinergic activity in the brain, which helps to explain the reported memory and cognition enhancing effects of ashwagandha extract.[8]

Vitamin B5 is an essential vitamin known for its role in acetylation reactions. It is involved in generating neurotransmitters such as acetylcholine, melatonin, and adrenal catecholamines, helping to replenish the depleted neurotransmitters. Vitamin B5 is also a component of coenzyme A, which is essential for metabolism of fat, carbohydrate, and protein. Common symptoms of vitamin B5 deficiency include headache, fatigue, insomnia, and intestinal disturbance.

Reference:

1. Mokuda O, Sakamoto Y, Kawagoe R, Ubukata E, Shimizu N. Epinephrine augments cortisol secretion from isolated perfused adrenal glands of guinea pigs. Am J Physiol Endocrinol Metabl (1992), Vol.262: E806-809.
2. Kelly GS. Rhodiola rosea: a possible plant adaptogen. Alternative Medicine Review (2001), Vol. 6 (3): 293-302.
3. Spasov AA, Wikman GK, Mandrikov VB, Mironova IA, Neumoin VV. A double-blind, placebo-controlled pilot study of the stimulating and adaptogenic effect of Rhodiola rosea SHR-5 extract on the fatigue of students caused by stress during an examination period with a repeated low-dose regimen. Phytomedicine (2000), Vol. 7 (2): 85-89.
4. Nagata A, Tajima T, Uchida M. Supplemental antifatigue effects of Cordycpes sinesis (touchu-kaso) extract powder during three stepwise exercise of human. Jpn J Phys Fitness Sports Med (2006), Vol. 55: S145-S152.
5. Hartz AJ, Bentler S, Noyes R, Hoehns J, Logemann C, Sinift S, Butani Y, Wang W, Brake K, Ernst M, Kautzman H. Randomized controlled tiral of Siberian ginseng for chronic fatigue. Psychological Medicine (2004), Vol. 34: 51-61.
6. Facchinetti F, Neri I, Tarabusi M. Eleutherococcus senticosus reduces cardiovascular stress response in healthy subjects: a randomized, placebo-controlled trial. Stress and Health (2002), Vol. 18: 11-17.
7. Szolomicki S, Samochowiec L, Wojcicki J, Drozdzik M. The infl uence of active components of Eleutherococcus senticosus on cellular defence and phsycial fi tness in man. Phytotherapy research (2000), Vol. 14: 30-35.
8. Schliebs R, Liebmann A, Bhattacharya SK, Kumar A, Ghosal S, and Bigl V. Systemic administration of defi ned extracts from Withania somnifera (Indian ginseng) and shilajit differentially affects cholinergenic but not glutamatergic and gabaergic markers in rat brain. Neurochem Int (1997), Vol. 30 (2):181-190.

Manufactured by Naturo Aid Pharmaceutical Inc. in accordance with Good Manufacturing Practices | NHPD-GMP site license #300391
#302-20285 Stewart Crescent, Maple Ridge, BC, V2X 8G1, Canada
Canada & US: 1-800-490-1738 | Other: 1-604-465-1688 | Fax: 1-604-465-1299
Email: info@vitaaid.com | Fore more information, please visit our website: www.vitaaid.com