



## ***Adpt-Adrenal*** ***Formula Monograph***



***Adpt-Adrenal*** is composed of dietary supplements that help to decrease the negative effects of stress and to improve energy and stamina. ***Adpt-Adrenal*** contains herbal extracts that help balance hormone levels, improve cortisol levels, improve cellular energy production and expenditure, improve immune system response and support metabolism.

Supplement Facts			
Serving Size: 3 Capsules Servings Per Container: 30			
Ingredients	Amount Per Serving	% Daily Value	Formula Use(s)
Proprietary Blend	1800 mg	*	
<i>Eurycoma longifolia</i> (Tongkat Ali) root 50:1 (w/w) extract		*	<ul style="list-style-type: none"><li>• Known as Malaysian “ginseng”</li><li>• Helps improve testosterone/cortisol ratio in men and women.</li><li>• Used to improve male sexual health and vitality.</li></ul>
Cordyceps ( <i>Cordyceps sinensis</i> ) mycelia 4:1 w/w extract		*	<ul style="list-style-type: none"><li>• Helps improve energy, stamina and physical performance</li><li>• Reported to improve <math>VO_{2\max}</math></li><li>• May help improve immune balance</li></ul>

Rhodiola ( <i>Rhodiola rosea</i> ) root Standardized to 5% rosavins	250 mg	*	<ul style="list-style-type: none"> <li>• Adaptogen</li> <li>• Helps support memory, stamina and energy</li> <li>• Reported to help improve physical performance</li> <li>• Antioxidant, including exercise-induced oxidative stress</li> </ul>
Schisandra ( <i>Schisandra chinensis</i> ) berry 4:1 (w/w) extract	200 mg	*	<ul style="list-style-type: none"> <li>• Adaptogen</li> <li>• Decreases effects of stress and reduced fatigue</li> <li>• Helps balance the immune system, liver, pancreas (blood glucose and insulin regulation)</li> <li>• Neuroprotective</li> </ul>
Ashwagandha ( <i>Withania somnifera</i> ) root 4:1 (w/w) extract	200 mg	*	<ul style="list-style-type: none"> <li>• Herbal “adaptogen”; helps the body adapt to stress</li> <li>• Antioxidant</li> <li>• Helps improve cortisol balance and support adrenal activity</li> <li>• Helps improve energy and reduce fatigue</li> <li>• May help improve testosterone levels</li> <li>• Reported to help improve thyroid hormone levels, especially T4</li> </ul>
* Daily value not established.			

### Recommended Uses:

Helps support energy and stamina, especially if under chronic stress or exercise heavily

### Recommended Dosages:

2 capsules in the morning and 1 capsule at noon daily.

### Product Overview:

**Adpt-Adrenal** contains the herbs rhodiola (*Rhodiola rosea*), ashwagandha (*Withania somnifera*) and Schisandra (*Schisandra chinensis*), all reported adaptogens that help the body adapt to various stressors by improving energy and stamina, immune and inflammatory responses and enhancing metabolic balance. **Adpt-Adrenal** also contains the herbal ingredient Tongkat Ali (*Eurycoma longifolia*), which has been used for centuries in SE Asia as a traditional medicine for male sexual health and is reported in clinical studies to help improve testosterone levels and decrease cortisol release related to chronic or excessive stress in both men and women.

## Supporting Research:

### Rhodiola (*Rhodiola rosea*) root

Rhodiola (*Rhodiola rosea*) is used in traditional folk medicine in China, Serbia, and the Carpathian Mountains of the Ukraine as an herbal adaptogen. Rhodiola seems to enhance the body's physical and mental work capacity and productivity, working to strengthen the nervous system, fight depression, enhance immunity, elevate the capacity for exercise, enhance memorization and improve energy levels.. A clinical study reported that an extract of rhodiola significantly improved generalized anxiety disorder symptoms, with a reduction in HARS scores similar to that reported by pharmaceuticals in clinical trials.<sup>1</sup> When administered to physicians, supplementation of rhodiola favorably influenced fatigue and mental performance during the first two weeks on night duty.<sup>2</sup> Students receiving a standardized extract of rhodiola demonstrated significant improvements in physical fitness, psychomotor function, mental performance, and general well being. Subjects receiving rhodiola extract also reported statistically significant reductions in mental fatigue, improved sleep patterns, a reduced need for sleep, greater mood stability, and a greater motivation to study.<sup>3</sup>

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

A 2009 phase III clinical trial reported that a standardized rhodiola extract had anti-fatigue activity that increases mental performance, particularly the ability to concentrate, and decreases cortisol response to awakening stress in burnout patients with fatigue syndrome.<sup>4</sup> 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.<sup>5</sup> Rhodiola has also been reported to increase exercise endurance and performance in humans (n=18 and n=24)).<sup>6,7</sup>

The adaptogenic properties, cardiopulmonary protective effects, and central nervous system activities of rhodiola have been attributed primarily to its ability to influence levels and activity of biogenic monoamines such as serotonin, dopamine, and norepinephrine in the cerebral cortex, brain stem, and hypothalamus. In addition to these central effects, rhodiola has been reported to prevent both catecholamine release and subsequent cyclic AMP elevation in the myocardium, and the depletion of adrenal catecholamines induced by acute stress.<sup>8</sup>

Rhodiola's adaptogenic activity might also be secondary to induction of opioid peptide biosynthesis and through the activation of both central and peripheral opioid receptors.<sup>9</sup> Rhodiola may also help improve immune function through regulation of IL-2 in Th1 cells and IL-4, IL-6, IL-10 in Th2 cells.<sup>10</sup>

A review of the clinical studies supporting the effectiveness of rhodiola supplements was conducted in 2011.<sup>11</sup> 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.

### **Ashwagandha (*Withania somnifera*) root**

Ashwagandha (*Withania somnifera*), also known as Indian ginseng and winter cherry, has been an important herb in Ayurvedic medicine for over 3000 years. Ashwagandha is used as an adaptogen – a plant that helps support the body during increased exposure to various stressors.<sup>12,13,14</sup> Ashwagandha contains alkaloids and steroidal lactones and is rich in iron. In human studies, ashwagandha is reported to have anti-inflammatory, anabolic and analgesic activity that helps decrease fatigue, improve hemoglobin and red blood cell counts and physical performance.<sup>15</sup> Laboratory studies suggest ashwagandha helps improve performance, decrease fatigue, and alter biochemical changes in the adrenal glands when under stress.<sup>16</sup>

- Herbal “adaptogen”; helps the body adapt to stress
- Helps improve cortisol balance and support adrenal activity
- Helps improve energy and reduce fatigue
- Reported to help improve testosterone levels in human subjects
- Reported to help improve thyroid hormone levels, especially T4

A 2010 study in 75 infertile men, reported that an extract of ashwagandha improved testosterone and luteinizing hormone (LH), while decreasing oxidative stress, follicle stimulating hormone (FSH) and prolactin.<sup>17</sup>

A 2013 study (n=100) reported Ashwagandha was effective in relieving fatigue and improving quality of life in breast cancer patients.<sup>18</sup> A 2010 study (n=40, mean age 20.6 yrs) reported that an extract of ashwagandha improved physical performance and cardiorespiratory endurance, with the conclusion that ashwagandha may help improve generalized weakness and to improve speed and lower limb muscular strength and neuromuscular co-ordination.<sup>19</sup>

Ashwagandha also has been reported in laboratory animal studies to help increase thyroid hormone production, particularly T4, which helps improve energy and metabolic performance.<sup>20</sup>

Use Ashwagandha with caution if taking sedatives, as Ashwagandha has been reported to increase the effects of barbiturates. A case report exists of a patient developing thyrotoxicosis when using an extract of Ashwagandha.<sup>21</sup>

### **Cordyceps (*Cordyceps sinensis*) mycelium**

- Helps improve energy, stamina and physical performance

*Cordyceps sinensis* is a fungus that grows on the back of the larvae of a caterpillar from the moth *Hepialus armoricanus* found mainly in China, Nepal, and Tibet. Traditional Chinese Medicine uses of cordyceps include as a tonic and for improved mental and physical performance. Over the past decade the ability to make this fermentation extract in the laboratory has made this once prized super food available to the general population.

- Reported to improve  $VO_{2\max}$
- Helps improve immune balance

Cordyceps has antioxidant properties, increasing serum levels of the enzyme superoxide dismutase (SOD), thereby increasing free radical scavenging ability.<sup>22</sup> Cordyceps is reported to help improve oxygen consumption by the cardiopulmonary system under stress and increase tissue “steady state” energy levels.<sup>23,24</sup> Cordyceps helps modulate immune function and optimize endocrine systems, increasing physical strength and endurance.

Cordyceps is reported in laboratory studies to increase interleukin (IL)-10, IL-1beta, IL-6, IL-8 and TNF-alpha, and suppress phytohemagglutinin (PHA)-induced production of IL-2, IL-4, IL-5, IFN-gamma and IL-12.<sup>25</sup> Cordyceps may also help balance Th1-type immunity, helping decrease inflammatory responses in the body.<sup>26</sup>

Cordyceps has traditionally been used for its improvement in respiration and in individuals with decreased lung function, such as asthma and bronchitis, and is reported to increase oxygenation ( $VO_{2\max}$ ) by 9-13%.

### **Schisandra (*Schisandra chinensis*) berry**

Schisandra (*Schisandra chinensis*) berry has been used in Traditional Chinese Medicine for Centuries as a general tonic and immune modulating herb.<sup>27</sup>

Schisandra lignans appear to protect the liver by activating the enzymes in liver cells that produce the antioxidant glutathione, and by inducing phase II detoxification processes.<sup>28</sup> Schisandra is also reported in laboratory studies to have anti-inflammatory activity, decreasing the release of pro-inflammatory cytokines including TNF-alpha, IL-6 and GM-CSF.<sup>29</sup>

- Antioxidant
- Herbal “adaptogen”; helps the body adapt to stress
- Cortisol balance
- Immune balance
- Hepatoprotective
- Neuroprotective

Schisandrins are reported in laboratory studies to have neuroprotective ability, protecting the nerve cells against aggregated beta-amyloid (A $\beta$ ) by attenuating ROS production and by decreasing elevated homocysteine levels.<sup>30</sup>

In clinical studies, Schisandra is reported to increase endurance and accuracy of movement, mental performance and working capacity, and generate alterations in the basal levels of nitric oxide and cortisol in blood and saliva with subsequent effects on the blood cells, vessels and CNS.<sup>31</sup> A clinical study reported Schisandra is effective in improving endurance and mental performance in those with mild fatigue and weakness.<sup>32</sup>

### **Tongkat Ali (*Eurycoma longifolia*) root**

Eurycoma (Tongkat Ali), also known as Malaysian “ginseng”, is an herb traditionally used in SE Asia for male reproductive health. Laboratory studies have supported these uses.<sup>33</sup> In clinical studies, Eurycoma is reported to increase male sexual vitality, along with increasing both total and free testosterone levels.<sup>34,35,36</sup> In a 2013 clinical study (n = 63, men and women), Eurycoma was reported to improve salivary cortisol levels and testosterone levels, along with improving symptoms of moderate stress, including tension, anger and confusion.<sup>37</sup> Studies support having healthy testosterone levels supports a healthy body composition in both men and women.<sup>38,39</sup>

- Malaysian “ginseng”
- Reported to improve total and free testosterone levels in men and women
- Helps balance testosterone to cortisol ratio
- Reported to help improve male sexual vitality

**Toxicity, Contraindications, or Side Effects:** There is no known toxicity or side effects from taking ingredients found in *Adpt-Adrenal*. Talk with your doctor or pharmacist before taking *Adpt-Adrenal* 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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