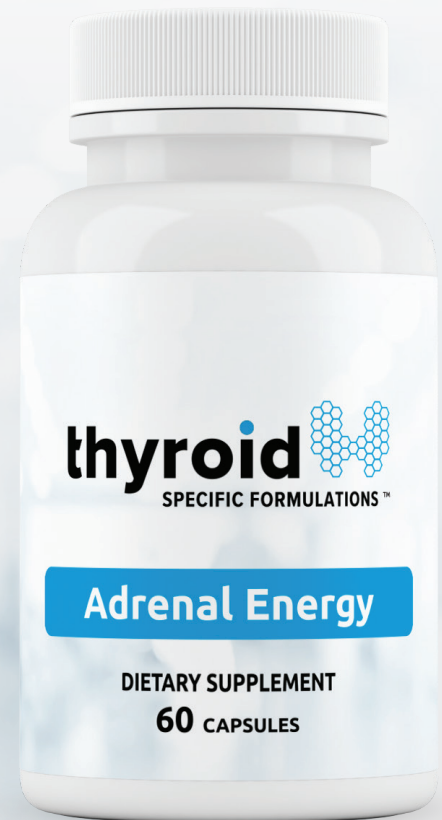




Adrenal Energy



Benefits

The ingredients in Adrenal Energy have been clinically proven to:

- Reduce fatigue symptoms from thyroid disease
- Regulate circadian adrenal function
- Stabilize energy levels
- Raise exercise capacity
- Improve depth of sleep

How to Use

Take 2 pills once daily in the morning with food. Use Adrenal Energy in conjunction with medical treatment to identify and resolve other causes of fatigue.

Formulation

- Cordyceps sinensis extract 200 mg
- Panax Ginseng - 100 mg
- L-Carnitine - 100 mg
- L Theanine - 100 mg
- B5 - 50 mg
- Astragalus - 50 mg
- Rhodiola root - 50 mg
- Ashwagandha - 25 mg
- Siberian Ginseng - 25 mg
- L Citrulline - 25 mg

Adrenal Function and Energy Levels

Fatigue is one of the top complaints of people with thyroid disease. It can manifest as low energy, poor mental function, and a lack of exercise tolerance.

Adrenal Energy is a nutritional blend to safely improve fatigue symptoms in those with thyroid disease. Thyroid disease contributes to fatigue through several mechanisms. These include:

- Stimulation of the vagus nerve via inflammation
- Metabolite accumulation
- Decreased free energy from ATP breakdown
- Mitochondrial dysfunction
- Decrease in glycogen storage
- Increase of pro-inflammatory cytokines
- Decrease of tissue oxygenation
- Circadian rhythm abnormalities

Strategies that reverse these mechanisms can be used to help people with thyroid disease regain normal energy levels.

TSF Ingredient Selection

In constructing Thyroid Specific Formulations, all ingredients considered must share the following properties.

Thyroid Safety

All considered ingredients must be natural compounds that have been safely consumed by humans for centuries. They must be generally recognized as safe (GRAS) by toxicologists. Finally, they must not contain unsafe levels of iodine.

Evidence and Efficacy

All considered ingredients must have high-quality evidence proving their efficacy. The best quality evidence is that which demonstrates significant positive outcomes on human subjects in multiple double-blinded controlled studies. These human subjects and the outcomes should be clinically relevant to the product's end-users.

Ingredients

Following is a complete discussion of the active ingredients. It includes their relevance to thyroid disease, mechanisms of action, and a review of supportive research.

Cordyceps

Cordyceps sinensis is a fungus related to dietary mushrooms. It has been used as an energy tonic throughout Asia since the earliest recorded medical treaties.

Cordyceps has been proven to improve energy by lowering thyroid antibodies, reducing inflammation, increasing endogenous antioxidant capacity, increasing glycogen storage, and improving immune regulation.¹

In a study of energy levels in adults aged 50-75, participants consumed cordyceps or placebo for 12 weeks. Exercise performance measured by metabolic threshold increased by over 10% and by ventilatory threshold over 8% in those taking cordyceps. They were able to generate more energy than before due to the effects of cordyceps.²

Panax Ginseng

Panax ginseng is a root extract that has been used to improve energy levels. Studies prove that it can lower oxidative stress and improve mitochondrial function in skeletal muscle tissue.

In a recent analysis of over 140 studies, researchers concluded that:

“Ginseng is a promising treatment for fatigue. Both American and Asian ginseng may be viable treatments for fatigue in people with chronic illness”³

In multiple double blind placebo studies, participants with fatigue given ginseng were shown to improve energy levels over those who received placebo. In many cases the fatigue scores improved within 15 days of starting ginseng and decreased by dramatic amounts.

L-Carnitine

L-Carnitine is a naturally occurring amino acid that is essential for mitochondrial energy production. In optimal health, our bodies produce it in adequate amounts. When L-Carnitine is lacking, fatty acids cannot be brought across the cell membranes to enter the mitochondria and therefore cannot be used to produce energy. In chronic conditions such as thyroid disease, L-Carnitine metabolism can be impaired.⁴

Clinical trials have shown that supplementation with L-Carnitine can improve symptoms of mental fatigue in those with thyroid disease.

In a representative study, 60 people with hypothyroidism and significant levels of fatigue were given L-Carnitine or a placebo. The treatment lasted for 12 weeks. By the end of the 12 weeks, participants noticed clear improvements in fatigue severity, physical fatigue, and mental fatigue.

Subgroup analysis showed that those who had prior thyroidectomies noticed the most dramatic energy improvements from L-Carnitine.⁵

Other studies have shown that L-Carnitine can lower fatigue post exercise, prevent age-associated muscle loss⁶, and improve mitochondrial function.⁷

L-Theanine

L-Theanine is a naturally occurring non-protein amino acid. It is found in foods such as tea and some mushrooms.

In supplement form, theanine has been shown to improve cognitive function and decrease mental fatigue. It improves alpha wave activity of the brain and can have neuroprotective effects against chronic stress.

In a representative study, 30 adults received theanine tablets or a placebo over a four week period. Most subjects were female and the average age was 48.3 years. Numerous tests of mood, cognitive performance, and sleep quality were performed.

Depression, anxiety, sleep quality, and cognitive function scores all improved in those taking theanine. Verbal fluency also showed a marked improvement.

Pantothenic Acid

Pantothenic acid is also known as vitamin B5. It is a nutrient that is required for the production of energy from fats and carbohydrates. It is also necessary for the regulation of adrenal hormones including cortisol, and DHEA.⁸

In vitro studies have shown that pantothenic acid supplementation can improve the adrenal glands' responsiveness to ACTH.⁹

Astragalus

Astragalus membranaceus is a yellow to tan root used in traditional Chinese Medicine.

Historically it was given for numerous conditions including chronic fatigue, kidney disease, and weakened immunity. In a double blind placebo controlled study astragalus was given to patients with severe fatigue post stroke.



Those receiving astragalus showed improvements in energy levels, quality of life symptoms, and mental function.¹⁰

The researchers concluded that:

“These findings suggest that [Astragalus] can ameliorate [fatigue] and improve quality of life, especially cognitive function ..., and social function”

Rhodiola

Rhodiola Rosea is a plant from arctic and Northern European areas that has a long history of use as an adaptogen.

It has been shown to improve salivary cortisol levels, mental work capacity, and measures of fatigue.¹¹

Studies have shown that the benefits of Rhodiola can manifest in those with fatigue secondary to chronic diseases as well as those with fatigue from normal life activities.

In a representative study, 100 subjects with prolonged fatigue symptoms used Rhodiola for 8 weeks. Many participants were noticing clear improvements to fatigue within the first week. These benefits continued to improve through the duration of the study. None had adverse effects from Rhodiola.¹²

Other studies have shown that Rhodiola may improve the powers of attention and lower symptoms of depression.¹³

Ashwagandha

Ashwagandha is an herbal tonic from Ayurvedic medicine. Whereas some tonics may produce side effects of overstimulation, Ashwagandha is not prone to. Not only that but it often lowers symptoms of agitation and anxiety while raising energy levels.

A recent double blind placebo controlled study showed the regular use of Ashwagandha led to improved regulation of cortisol and lower symptoms of chronic stress.¹⁴

In addition to benefits with adrenal function, human studies show that Ashwagandha may help thyroid function.

A recent clinical trial showed that patients prone to thyroid disease who were taking Ashwagandha experienced increases in their thyroid hormone output.¹⁵

Eleutherococcus

Eleutherococcus senticosus (Siberian Ginseng) is the root of an Asian plant with a long history of use as an adaptogen and energy tonic. It is known to act as an antioxidant, an immune tonic, and a blood sugar regulator.

In a review of multiple studies, eleutherococcus has been shown to regulate the output of adrenal hormones in chronic stress conditions and improve the response of the parasympathetic system. It has also been shown to improve energy metabolism and biologic responses to hypoxia.¹⁶

In a recent placebo controlled blinded human clinical trial, 87 participants were selected to evaluate the effects of eleutherococcus on chronic stress. Compared to those on placebo, those receiving eleutherococcus showed improvements in surveys regarding symptoms of fatigue and depression.¹⁷

L-Citrulline

L-Citrulline (Citrulline malate) is an amino acid that has been shown to improve exercise capacity of males and females. It is converted by the kidneys into L-arginine and nitric oxide. When nitric oxide levels increase, blood flow to muscles improves, raising physical energy and recovery from activity.

In older adults, supplementing with L-citrulline was shown to improve physical performance and the breakdown from fat more than high-intensity interval training (HIIT) alone.¹⁸

In a study on L-Citrulline and female strength, female athletes took L-Citrulline or placebo on two separate occasions. Those supplementing with L-Citrulline showed more upper body and lower body strength without increased exertion as measured by heart rate. They were able to generate more energy without pushing themselves harder.¹⁹

Supportive Strategies for Energy Enhancement

For those with persistent fatigue despite thyroid treatment, consider iodine regulation, lifestyle strategies to support adrenal function, and investigation of other causes of fatigue.

For iodine regulation, review the guidelines in the Thyroid Reset Diet. For adrenal lifestyle strategies, review the adrenal quiz and the guidelines in the Adrenal Reset Diet. For other causes of fatigue, work with your doctor and consider conditions including anemias, arthritis, celiac disease, depression, obesity, parathyroid disease, and sleep apnea.

Directions

2 capsules once daily with food. Take at least one hour after thyroid medication.

Does Not Contain

- Caffeine
- Stimulants
- Thyroid hormones
- Iodine
- GMO
- Gluten
- Dairy

Supplement Facts

Cautions

The ingredients listed have not been studied in pregnant or lactating women and should be avoided. Those on thyroid medication may need a reduction in their dosage due to the usage of this product.

Please work with your prescriber to monitor your thyroid levels regularly and report any new symptoms or changes to existing symptoms.



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