INGREDIENTS

Trehalose
Trehalose is a white, odorless powder with relative sweetness 45% that of sucrose. Trehalose occurs naturally in small amounts in mushrooms, honey, lobsters, shrimps, certain seaweeds (algae), wine, beer and bread. Trehalose is a source of energy. It can provide about 4 Calories per gram, about the same as sucrose.\(^\text{10}\)

Acetylle L-Carnitine
Some fibromyalgia sufferers have low levels of acylcarnitine, which plays a crucial role in the body's energy production. A deficiency of L-carnitine can lead to symptoms such as fatigue, muscle weakness, obesity, plus elevated blood lipid and triglyceride levels.\(^\text{13}\)

D-Ribose
D-Ribose is a functional five-carbon sugar that plays the important role in life as a ribosyl residue for energy. D-Ribose has been used to improve athletic performance/ability as an energy source, produces riboflavin (vitamin B2).\(^\text{14}\)

Natural Caffeine
Caffeine improves reaction time, vigilance and logical reasoning during extended periods with restricted opportunities for sleep.\(^\text{5}\) After in-depth review over the past 15 years, it was shown that caffeine intake between 38 to 400mg per day could maximize benefit and minimize risk in relation to mood, cognitive function, performance and hydration.\(^\text{12}\) Caffeine has been shown to enhance long-term memory (borota).\(^\text{1}\) In addition, there may also be an association between caffeine consumption and lower risk of suicide.\(^\text{8}\)

L-Theanine
When L-theanine and caffeine are administered together, L-theanine modulates or potentiates the effects of caffeine. These two compounds used in unison have been found to increase speed on several tasks, improve semantic memory and increase alertness.\(^\text{2}\)
African Mango
Technically known in the scientific world as *Irvingia Gabonensis*, native Africans have used African Mango for centuries for its health benefits. It is clinically proven to lower cholesterol and significantly reduces total blood cholesterol. It is proven to have effective thermogenic powers that burn fat, boost the metabolism, suppress appetite, increase energy, reduce visceral fat, improve blood sugar and cholesterol levels, and detoxify the body.¹¹

Yerba Mate
Yerba mate is a native plant from the subtropical regions and one of the most consumed in South America. Yerba mate has been shown to not only be an antioxidant, but it is displayed the ability to be an active and a protective compound against DNA damage. Yerba mate aids in the stimulation of the brain, heart and muscles lining blood vessels. In addition, yerba mate has been proven to have anti-obesity effects."6

Guarana
Guarana (*Paullinia cupana*) is a species of climbing plant native to the Amazon that is known as an antioxidant, traditional medicinal, and an effective stimulant. Recent work has also examined the use of guarana to counter fatigue and depression associated with cancer treatment. In additional, other components of guarana seeds are also thought to provide extra stimulant effects above those of caffeine alone.⁹

Green Tea
For many centuries, green tea has been appreciated for its ability to accelerate fat burning, suppress the appetite, and increase metabolic rate. Green tea has undergone rigorous testing and it has been determined that it can reduce body fat and weight. It also contains antioxidants, sharpens mental acuity, and improves cardiovascular health due to its anti-inflammatory properties.⁷

Malic Acid
Malic acid is used in many product as a flavor enhancer. It may also aid in pain reduction and skin care. Malic acid is a compound that occurs naturally in foods, in fruits in general, and in especially high levels in apples. When levels of malic acid are low, the body often has to shift to a very inefficient means of generating energy. This contributes to an abnormal buildup of lactic acid, which can cause muscle pain, achiness, and fatigue.³

Vitamin C
Vitamin C may lower the risk for some cancers, including those of the stomach, esophagus, mouth and breast. Long-term use of supplemental vitamin C may protect against cataracts. It helps make collagen, a connective tissue that knits together wounds and supports blood vessel walls. In addition, it helps make the neurotransmitters serotonin and norepinephrine, thus increasing alertness and well-being. Vitamin C acts as an antioxidant, neutralizing unstable molecules that can damage cells and boosts the immune system.4

**Vitamin B5**
Deficiency of this vitamin causes burning feet and other neurologic symptoms. Vitamin B5 is also known as pantothenic acid. This vitamin helps convert food into energy. In addition, B5 helps make lipids (fats), neurotransmitters, steroid hormones, and hemoglobin.4

**Vitamin B6**
B6 aids in lowering homocysteine levels and may reduce the risk of heart disease. This vitamin helps convert tryptophan to niacin and serotonin, a neurotransmitter that plays key roles in sleep, appetite, and moods. It helps make red blood cells and influences cognitive abilities and immune function.4

**Vitamin B12**
Some people, particularly older adults, are deficient in vitamin B12 due to having trouble absorbing this vitamin from food. A lack of vitamin B12 can cause dementia, memory loss and numbness in the arms and legs. This vitamin aids in lowering homocysteine levels (linked to heart attack and stroke through plaque formation in arteries) and may lower the risk of heart disease. In addition, vitamin B12 assists in making new cells, to include red blood cells, and breaking down some fatty acids and amino acids, and protects nerve cells and encourages their normal growth.4

**Thiamin**
Thiamin is a vitamin that has been found to help convert food into energy. Thiamin is also recognized as vitamin B1. This vitamin is needed for healthy skin, hair, blood, and brain health.4

**Riboflavin**
Riboflavin has been found to help convert food into energy. Riboflavin is also recognized as vitamin B2. This vitamin is also needed for healthy skin, hair, blood, and brain health.4
Niacinamide
Niacinamide has been shown to stimulate collagen production, restore epidermal barrier function, aids in down-regulating inflammation and has been shown to extend the replicative life span of cells. In addition, niacinamide has been shown to prevent radiation-induced cellular adenosine triphosphate (ATP) or energy loss.\(^\text{15}\)

Folic Acid
This vitamin is vital for new cell creation. It helps prevent brain and spine birth defects when taken early in pregnancy and should be taken regularly by all women of child-bearing age since women may not know they are pregnant in the first weeks of pregnancy. It too can lower levels of homocysteine and may reduce heart disease risk. May reduce risk for colon cancer. Offsets breast cancer risk among women who consume alcohol.\(^\text{4}\)

References


