



Available in Natural Citrus Flavor

Discussion

Caffeine Pterostilbene Co-Crystal

Caffeine pterostilbene co-crystal is an innovative ingredient that combines caffeine with pterostilbene—a highly bioavailable analog of resveratrol—to form a unique co-crystal structure. It appears that this unique structure affects the way the body utilizes caffeine. As such, it may offer significant advantages over caffeine alone.*

Study Findings

In a rat study (n=6), the half-life of the caffeine from caffeine pterostilbene co-crystal was eight hours, while that of ordinary caffeine was just three hours.^[1] In a preliminary, four-week, single-blind, crossover human study (n=12) that compared 232 mg of caffeine pterostilbene co-crystal (providing 99.76 mg of caffeine) to 100 mg of ordinary caffeine, the following effects were demonstrated^[2,3]:

- » Caffeine pterostilbene co-crystal delivered almost 30% more caffeine into the blood than ordinary caffeine.*
- » The absorption rate of the caffeine from caffeine pterostilbene co-crystal was significantly slower by approximately 30% compared to ordinary caffeine.*
- » The half-life of the caffeine from caffeine pterostilbene co-crystal was extended significantly by approximately 25% compared to ordinary caffeine.*
- » At 4 hours, serum showed 45% more caffeine from caffeine pterostilbene co-crystal compared to ordinary caffeine.*
- » At 6 hours, serum showed 51% more caffeine from caffeine pterostilbene co-crystal compared to ordinary caffeine.*
- » Caffeine pterostilbene co-crystal had no adverse effect.*

While the results of these studies are promising, larger studies are needed to validate the findings and determine if these findings translate into a lengthened energy effect.*

More Energy

Taken together, data from these studies suggest that the effects of caffeine from caffeine pterostilbene co-crystal may last longer than the effects from ordinary caffeine and point to a potential for reducing total caffeine intake due to caffeine pterostilbene co-crystal's more efficient delivery and slower absorption rate. These are encouraging factors for people who wish to reduce their caffeine intake.*

Slower Caffeine "Finish"

Scientists are researching whether or not the extended half-life and slower absorption rate of caffeine from caffeine pterostilbene co-crystal can produce a more moderated and gradual finish. This may help prevent the "crash" associated with regular caffeinated energy products and may give ATP Ignite an advantage over formulas that use ordinary caffeine.*

All-Natural, No Sugars

ATP Ignite relies on natural ingredients, not ephedra or artificial stimulants. Furthermore, it provides only five grams of carbohydrates and zero sugars. By using

- Helps to relieve fatigue, to promote endurance, and to enhance motor and cognitive performance
- Helps fight free radicals with antioxidant nutrients

natural flavors and stevia in place of sugar and other carbohydrates, the typical "sugar high" that is associated with many energy drinks can be avoided. Equally important, ATP Ignite contains no artificial colors.*

Caffeine, in General

In animal and human studies, caffeine has demonstrated positive effects on athletic performance, fatigue, and cognitive functions, such as supporting a healthy memory.^[4-8] According to Meeusen et al, research on caffeine suggests its performance-enhancing effect is related to antagonism of the adenosine receptors that influence the dopaminergic and other neurotransmitter systems.*^[9]

Pterostilbene

In the aforementioned human study, caffeine pterostilbene co-crystal also delivered approximately 50% more total pterostilbene into the blood than pterostilbene delivered alone,^[2] thus potentially enhancing the functional benefits of pterostilbene. Pterostilbene is a highly bioavailable analog of resveratrol—a stilbenoid found in blueberries and grapes. Compared to resveratrol, pterostilbene is four times more bioavailable,^[10] has a seven times greater half-life,^[11] exhibits greater oral absorption and metabolic stability (pterostilbene is more lipophilic), and produces two to four times greater cellular uptake.^[12] Aside from resveratrol's well-known antioxidant benefits that support cardiovascular health, pterostilbene is also known to activate certain proteins (i.e., SIRT1 and PGC-1α) involved in increasing mitochondrial biogenesis and therefore ATP (energy) production.*^[13-15]

Electrolytes and Antioxidants

Electrolytes—including sodium, potassium, and magnesium—are important for energy production, nerve transmission, muscle contractions, pH balance, fluid balance, and more. Conditions that promote excessive sweating and increased metabolic activity can require replacement of these important minerals and increase the need for antioxidants. ATP Ignite provides 130 mg of sodium, 280 mg of potassium, and 150 mg of magnesium in each serving. To support protection from free radicals, ATP Ignite provides 500 mg of vitamin C in the form of four mineral ascorbates, as well as natural vitamin E, selenium, green tea extract, and s-acetyl-L-glutathione (SAG). SAG is an orally stable glutathione that has been shown to cross the membrane of the mitochondria, which increases the organelle's activity and helps minimize reactive oxygen species.*

Herbs and Amino Acids

ATP Ignite combines caffeine pterostilbene co-crystal in a proprietary blend with various herbs and amino acids, including green tea extract, coffee fruit extract, taurine, and L-arginine alpha-ketoglutarate. This proprietary blend is designed to complement the activities of caffeine pterostilbene co-crystal. Furthermore, some of these individual ingredients taken in high doses have roles in mitochondrial biogenesis or are known to have a positive influence on exercise performance.*^[16-18]

B Vitamins

As essential parts of coenzymes, these water-soluble nutrients are integral to the complex biochemical processes that convert food to glucose and ATP—the energy used by cells. Vitamin B12 also works closely with folate to help make red blood cells and facilitate the work of iron in the body. Iron helps carry oxygen to all cells, including muscle cells, for use in the generation of energy.*

ATP Ignite™ Natural Citrus

Medicinal Ingredients per stick pack (about 7.8 g)

Servings Per Container: 30

Vitamin C (as sodium ascorbate, potassium ascorbate, calcium ascorbate, zinc ascorbate)	500 mg
Vitamin E (as d-alpha tocopheryl succinate)	10 ATE (15 IU)
Thiamin (as thiamine HCl)	0.45 mg
Riboflavin (as riboflavin 5'-phosphate sodium)	0.5 mg
Niacin	10 mg
Vitamin B6 (as pyridoxal 5'-phosphate)	2.6 mg
Folate (as Quatrefolic® (6S)-5-methyltetrahydrofolic acid, glucosamine salt)	40 mcg
Vitamin B12 (as methylcobalamin)	2500 mcg
Pantothenic Acid (as calcium d-pantothenate)	3 mg
Magnesium (as Albion® di-magnesium malate)	150 mg
Zinc (as TRAACS® zinc bisglycinate chelate)	3 mg
Manganese (as TRAACS® manganese bisglycinate chelate)	0.5 mg
Chromium (as TRAACS® chromium nicotinate glycinate chelate)	100 mcg
Pterostilbene	117.5 mg
Caffeine	96 mg
Green coffee (<i>Coffea arabica</i>) whole fruit (40% chlorogenic acids, 2% caffeine)	50 mg
Taurine	50 mg
L-Arginine-alpha-ketoglutarate	50 mg
Green Tea (<i>Camellia sinensis</i>) Leaf Extract (25% polyphenols, 15% catechins, 10% caffeine)	30 mg
Glutathione (s-acetyl-glutathione)	25 mg
Acetyl-L-carnitine	25 mg

Non-Medicinal Ingredients

Maltodextrin, citric acid, potassium bicarbonate, malic acid, sodium bicarbonate, natural flavors (no MSG), stevia leaf, silica.

Nutritional Information

Amount per 1 Stick Pack

Calories	20
Total Carbohydrate	4 g
Sodium	130 mg
Potassium	280 mg

Recommended Dose

Adults: Dissolve the contents of one stick pack in 6-12 oz of water according to preferred sweetness. Consume the effervescent drink once daily, or use as directed by your healthcare practitioner. For use beyond two months consult a healthcare practitioner.

Do not use if you are pregnant. Consult a healthcare practitioner prior to use if you are breastfeeding, have a liver disorder or develop symptoms of liver trouble, have an iron deficiency, kidney disease and a seizure disorder, are taking lithium, have high blood pressure, glaucoma, and detrusor instability. Consumption with other caffeine-containing products, natural health products or other drugs which increase blood pressure is not recommended. This product is not intended as a substitute for sleep.

Hypersensitivity/allergy is known to occur, in which case, discontinue use. May cause digestive problems and some people may experience an increase in appetite. People sensitive to nicotinic acid may experience flushing of the skin that is generally mild and transient.

Stop use if you develop symptoms of liver trouble such as yellowing of the skin/eyes (jaundice), stomach pain, dark urine, sweating, nausea, unusual tiredness and/or loss of appetite and consult a healthcare practitioner. Rare, unpredictable cases of liver injury associated with green tea extract-containing products have been reported.

Storage: Keep out of reach of children. Store in a cool dry place.

Does Not Contain: Wheat, gluten, yeast, soy protein, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

 Quatrefolic is a registered trademark of Gnosis S.p.A. Produced under US patent 7,947,662.

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Additional references available upon request

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