

Key-Tonic

MCTs, Amino Acids, Polyphenols
and Freeze-Dried Raspberry Powder



In the quest for graceful aging, routine fasting and/or caloric restriction has been the one consistent message science has revealed as effective and useful.^{1,2} And, much of the benefit seen from fasting and caloric restriction is due to the body's ability to move into a state of nutritional ketosis, a metabolic state that allows the body to burn ketones in place of glucose. Ketosis supports healthy

- weight balance,
- energy production,
- insulin sensitivity,
- glucose metabolism,
- brain function, and
- inflammatory and other immune responses.

However, the problem for many people in following this advice and either fasting, or restricting their calories for a period of time, has been the concerns of "hunger, fatigue, and mental fogginess."

Therefore, the question has been...

How to support a health-promoting fast and/or period of caloric restriction while minimizing the discomfort of the potential hunger, fatigue, and mental fogginess?

Introducing Key-Tonic[◊]

A simple, yet synergistic, combination of coconut-based high-C8 MCTs, essential amino acids, plant-based polyphenols, about a cup of coffee's worth of caffeine, a small amount of highly bioavailable B12, all finished with a bit of organic

freeze-dried raspberry powder and stevia. And, while it is the synergy of this combination that makes it unique, each individual ingredient offers its own independent benefits.

Coconut-based, high-C8 Medium-Chain Triglycerides (MCTs). MCTs, particularly those that

are high in the C8 medium-chain fatty acids, are an excellent source from which the body can make the ever useful ketones.³ They require no extra effort for digestion or assimilation as they take a more direct route to the liver; once there, they provide a ready-to-use supply of energy for the body, including the brain.⁴ This shortcut to having ketones readily available for the body allows the transition to burning fat and ketones for fuel to be much more comfortable and achievable for the majority of people.

Taurine is a conditionally essential amino acid that feeds the heart, kidneys and brain in particular.^{5, 6} It becomes an essential amino acid during times of heavy athletic training, illness, surgery, and/or other major stress. During nutritional ketosis, taurine supports healthy blood-sugar levels, retinal health, and as well as healthy mood and neurological function.[◊]

L-Lysine and **L-Leucine** are two essential amino acids that are both exclusively ketogenic by nature.** This means that as they are metabolized they actually convert into ketones, thereby increasing this form of fuel for the body and expediting the transition from glucose burning to ketone burning.[◊] Aside from the ketogenic benefit of these amino acids, L-Lysine also helps to produce L-Carnitine, which is a nutrient that metabolizes fatty acids into energy and helps to maintain healthy cholesterol levels.^{◊7} There are also studies from the University of Maryland showing that lysine helps with calcium absorption and the formation of collagen thereby supporting our bones, cartilage, tendons and skin.^{◊8} And, L-Leucine is one of the few branched chain amino acids that are so vital for muscle growth and repair.[◊]

***Exclusively ketogenic is in contrast to those amino acids that are both glucogenic or ketogenic depending on the metabolic context they are in.*

Caffeine. Many of us already appreciate the mental sharpness offered by caffeine via our regular morning coffee or tea. However, caffeine is included in this formula not only for its ability to sharpen our mind, but also because of its ability to promote the production of ketones.^{◊9} And, with this increase in ketones, we once again support metabolism, physical performance, and hunger management.[◊]

***A few notes about caffeine consumption. While the amount of caffeine included in a serving of this formula (70 mg) is about equal to a typical cup of coffee, it is important to keep in mind that the upper recommended level of caffeine intake per day is 400 mg. This means, if a normal daily routine already includes a number of sources of caffeine (i.e. coffee, tea, energy drinks, chocolate), the overall daily consumption should be assessed and modified if necessary. And/or if someone is not accustomed to ingesting caffeine, or highly*

sensitive to caffeine, it may be wise to start with a smaller amount of Key-Tonic in order to assess individual response. If this smaller serving size is well tolerated, it is possible to increase over time to a larger serving size and even possibly the full serving amount.

Resveratrol. This powerhouse polyphenol may be the one plant-based substance able to challenge caloric restriction in metabolic benefits and extending lifespan.^{◊10} Many of resveratrol's benefits are derived from its ability to positively influence the expression of a family of genes known as the Sirtuan genes, abbreviated "Sirt."¹¹ This family of Sirt genes are known to support healthy aging and recycle old (senescent) cells via autophagy.[◊] And, in animal models, both Resveratrol, and its cousin Pterostilbene, are quite active in supporting brain health despite aging and other neurological challenges.^{◊12} Resveratrol can be found in grapes, blueberries, other fruits and veggies, as well as a plant known as Japanese Knotweed, or *Polygonum cuspidatum*.

Pterostilbene, the cousin to Resveratrol mentioned above, is a phytoalexin and is also known for its positive effects on longevity.^{◊13} The most studied benefits include supporting neurological health and metabolic balancing.^{◊14} And, because of a slight variation in its chemical structure, pterostilbene is found to be a bit more bioavailable and longer lasting in the body than resveratrol.¹⁵

Methylcobalamin—a form of B-12 that is known for its ready absorption and usability by the human body. Also, B-12 deficiency is one commonly found in the aging population due to a number of factors that can deplete our levels: decreased stomach acid (from aging or medications), deficient intrinsic factor in the stomach, and/or the use of certain medications such as the anti-diabetic medication, metformin. Also stress can increase the body's demand of this nutrient, increasing the amount we need to ingest. And because B12 supports healthy moods, energy levels, brain and cardiovascular function, as well as healthy hair, skin and nails, it should not be neglected in the quest for longevity with quality of life.[◊]

Stevia (*Stevia rebaudiana*) was selected as a sweetener for Key-Tonic because it does not negatively impact blood sugar and/or insulin levels. Just enough is used to impart a mildly pleasant taste as it is designed not to be overly sweet; think of this as more of a dusting than a dousing.

Organic freeze-dried raspberry powder. Low on the glycemic index, these phytonutrient packed berries also offer their own antioxidant benefits, as well as some fiber, vitamin C and quercetin.

Use Key-Tonic

- for ketone generating support for weight management, exercise performance, energy boost, and/or mental clarity;[‡] to support the transition from a standard diet to a calorie restricted diet;
- as a wake-up call for the brain after lunch (or any meal);[‡]
- to add amino acids, polyphenols and nutrients to your current dietary program.

The choice is yours. We invite you to see how you enjoy it most!

REFERENCES:

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Supplement Facts

Serving Size One 15 cc Scoop (5.0 g)
Servings Per Container 30

Amount Per Serving	% Daily Value	Amount Per Serving	% Daily Value
Calories	20	Coconut MCT (Medium-Chain Triglycerides)	1.4 g *
Vitamin B-12 (Methylcobalamin)	50 mcg 2083%	Polyphenol Blend	0.9 g *
Key-Tonic Proprietary Blend	2.07 g *	Organic Raspberry Powder	*
Taurine	*	<i>trans</i> -Pterostilbene	*
L-Lysine	*	<i>trans</i> -Resveratrol	*
L-Leucine	*		
Caffeine	*		

*Daily Value not established

INGREDIENTS: Key-Tonic Proprietary blend (Taurine, L-Lysine, L-Leucine, Caffeine), Coconut MCT (Medium-Chain Triglycerides; 70%), Polyphenol Blend (Organic Raspberry Powder, *trans*-Pterostilbene, *trans*-Resveratrol), Stevia (*Stevia rebaudiana* (Bertoni) Bertoni) Leaf Extract, Methylcobalamin.

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KEEP OUT OF REACH OF CHILDREN.

As with all supplements, please consult your physician prior to taking if you are pregnant or attempting to become pregnant, breast-feeding, under a doctor's care or taking prescription medication. Contains caffeine. This product is unsuitable for young children or those sensitive to caffeine.

This product is processed in the same facility as products containing fish, shellfish, soy and dairy.

This product was not tested on animals.

Suitable for Vegans.

DIRECTIONS: Mix one level 15 cc scoop (5.0 g) in 120-180 ml (4-6 ounces) of your favorite cold liquid. Mix or shake vigorously.

†These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

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