

The ordinary man can achieve greatness if he's willing to fuse skillful measures with extraordinary effort.

Granite Supplements provides cutting edge, healthful nutritional tools to complement your bodybuilding **strategic plan**. Whether you're generally **restricting carbohydrate** (e.g., keto-dieting) or simply prefer a lighter, **carb-free intra-workout recovery drink**, we've created **Keto Factor X™**, a low-carb, ketone-enriched version of Recovery Factor X™.

When It's Time to GRIND.... Keto Factor X™ !

We've included some of the recovery and performance perks of Recovery Factor X™ [electrolytes, essential amino acids (EAAs)] in Keto Factor X™, as well as the pump enhancing ingredients, to ensure **hydration** and **anabolism / anti-catabolism**, but replaced carbohydrate with **β-hydroxybutyrate**, so you now have the flexibility to:

- **Build upon an entry-level dose** of ketone bodies (as [goBHB™](#) β-hydroxybutyrate salts) by supplementing with **additional** ketone bodies and/or medium chain triglycerides.
- **Focus your nutrient timing** towards pre- and/or post-workout carbohydrate intake (e.g., eat more whole foods).

Keto Factor X™ is a powerful nutritional **performance** and **recovery** tool. In addition to the major electrolytes lost in sweat [to help keep you well hydrated], we've included a synergistic combination of three supplement matrices:

- **Ketogenic** and **Neurogenic** Fuel Matrix
- **Essential Amino Acid** Myotropic Matrix
- Vasoactive **Pump** Matrix

Keto Force™ Synergy



Essential Amino Acid Myotropic Matrix

- We included the **Essential Amino Acid (EAA) Myotropic Matrix** because it's the **essential** [not the non-essential] **amino acids** that trigger muscle protein synthesis. Leucine (3g) sits atop this EAA stack because of its primacy in triggering protein anabolism. We were sure focus on the other branched chain aminos (BCAAs; Isoleucine and Valine at 1.5g each) as well, because the BCAAs are known to reduce muscle breakdown and post-exercise soreness and damage.
- The other EAAs blended in the Myotropic Matrix are based on the anabolic EAA mixture used extensively in research, adjusted slightly to take advantage of the anabolic signaling and insulin-releasing effects of lysine and phenylalanine.

Ketogenic and Neurogenic Fuel Blend

- Keto Factor X™ contains 4,600mg (4.6g) of ([goBHB™](#)) **β-hydroxybutyrate (BHB) salts**, a hearty **entry-level dose** of this ketone body. By building upon this with additional BHB salts, or ideally, a ketone ester supplement, blood ketone levels can be elevated dose-dependently. [Unfortunately, the extremely viscous, oily and bitter nature of available ketone **monoesters** would make a sticky, nasty mess out of the Keto Factor X™ powder.] Still, a low dose of BHB salts (~17g for a 220lb bodybuilder) can rapidly elevate blood BHB to levels normally seen only after 1-2 days of fasting, and the same dose of BHB esters can almost double peak BHB levels. [**NOTE**: that amount of BHB **salt** would mean a large acid/salt load, but adding

(caprylic and capric acid based) medium chain triglyceride can make BHB salts much more ketogenic.] While the data are very sparse, elevating blood ketones may serve as an alternate fuel to enhance endurance performance, suppress appetite, enhance cognition and possibly reap other metabolic benefits of ketosis.

- **N-Acetyl L-Tyrosine** is Keto Factor X™'s soluble source of L-tyrosine, a precursor for catecholamine synthesis (e.g., noradrenaline and dopamine), thus supporting brain neurotransmitter levels and cognitive performance. When under duress (e.g., during a killer workout), tyrosine supplementation may actually promote the aggressive mentality needed to drive through previous performance barriers.

Vasoactive Pump Matrix

- **Keto Factor X™** contains 3g of **L-Citrulline**, which if consumed alongside **ArcReactor™** (our preworkout formula containing 6g of L-Citrulline) or some other 3-6g source L-Citrulline, provides an adequate dose to bolster nitric oxide synthesis [elevating both arginine and nitrite!], open up blood vessels, drive more blood into muscle, improve exercise performance, and perhaps even reduce muscle soreness. L-Citrulline gives you a pump, performance enhancement and recovery potential, all in one!
- **Taurine** is a β-amino acid vital for a plethora of cellular processes including **maintaining cell volume**. Adequate taurine stores are necessary for optimal muscle force production and useful to prevent muscle cramps. Although endurance exercising rodents seem to get an ergogenic boost from taurine, differences in taurine metabolism probably explain why this hasn't generally panned out in humans, at least during endurance events;Rutherford, 2010 #10715}. On the other hand, a 1-2 gram dose of taurine was **ergogenic** in an all-out 11 min effort and increased fat burning during a 90 min bout. Still, taurine's a perfect fit in **Keto Factor X™**: Daily supplementation with taurine and BCAA (in our Mytropic Maxtrix) can speed recovery by reducing post-exercise muscle damage and oxidative stress, **without** sacrificing the normal adaptive free-radical quenching adaptations sent in motion by training.
- The **casein-derived tripeptides** in **VasoDrive-AP™** have been demonstrated to normalize blood pressure by inhibiting angiotensin converting enzyme (ACE). Inhibiting ACE and/or blocking the angiotensin II receptor also improves insulin sensitivity - vital for muscle blood flow and a good pump - and protects your muscle cells (and their mitochondria) against age and free-radical related dysfunction. However, it's the potential

- ergogenic effects** of lowering ACE activity that have prompted the suggestion ACE inhibitors be scrutinized as doping agents!
- [Capros®](#) is a concentrated extract from **Indian gooseberry** (a.k.a. amla) with powerful antioxidant properties. [Capros®](#) improves markers of cardiovascular risk(e.g. C-protein levels) and blood vessel function, vital for a skin-splitting pump. [We've intentionally limited the dose of [Capros®](#) to ensure that it's antioxidant quenching power ([ORAC](#) value) is roughly that of a few oranges, i.e., far less than what could endanger your gains.]

Disclaimer: L-Tyrosine may interact with certain drugs (such as MAOIs, Levodopa and thyroid medications).