



Supplement Facts

Serving Size 2 scoops (28g)
Servings Per Container 18

Amount Per Serving	% Daily Value	
Calories	20	
Total Carbohydrates	5g	1%
Sugars	0g	**
Leucine	3.5g	**
Iso-Leucine	1.75g	**
Valine	1.75g	**
Beta-Alanine	3.2g	**
Creatine Monohydrate	5g	**
L-Glutamine	5g	**

*Percent Daily Values are based on a 2,000 calorie diet.
**Percent Daily Value not established.

NSI Supplements

Optimal Stacks

Common Questions

DESCRIPTION

New and improved Creablast builds on the NSI pledge of combining research-backed ingredients at clinical dosages shown to be effective for increasing performance, aiding in recovery and repair, and stimulating muscle protein synthesis.

IDEAL TIMING

- Daily Use (standalone product used daily anytime)
- As a non-stimulant pre-workout
- As a low-calorie/carb post-workout

So what does the SCIENCE say about the ingredients found in CREABLAST?

BCAA 2:1:1 RATIO

Leucine, Isoleucine, and Valine
Dosage: 7.5g

Branched Chain Amino Acids (BCAA) refer to three amino acids: leucine, isoleucine, and valine. BCAA supplementation promotes muscle protein synthesis and increase muscle growth over time. BCAAs also are used to prevent muscular fatigue. Of these, leucine is the most heavily researched and appears to offer the biggest physiological benefit. 3-4 grams of leucine appears to be a good target for stimulating muscle protein synthesis.

MORE IN-DEPTH INFORMATION:

Amino acids are the building blocks of muscle protein. BCAAs provide the basis for protein synthesis and energy production. In fact, BCAAs can comprise up to one-third of muscle protein. Because of their prevalence and involvement in protein synthesis and energy production, BCAAs are important to many metabolic processes.

However, if BCAAs are going to participate in these processes, they must be available to the body. This means we have to eat (or drink) enough BCAAs, and at the right times, to enable such processes to occur.

The BCAAs are the only amino acids not degraded in the liver. All other amino acids are regulated by the gut and the liver before being circulated elsewhere in the body. However, BCAAs head directly into the bloodstream. This means that dietary intake of BCAAs directly influences plasma levels and concentrations in muscle tissue. Interestingly, BCAAs are burned for energy (oxidized) during exercise, so they're also an important exercise fuel.

Because it's so important to have BCAA (particularly leucine) available for protein synthesis, if you train in a fasted state, or don't eat after exercise, you're going to lose more protein than you rebuild.

However, if you eat adequate BCAAs during this time, especially leucine, you'll enhance protein synthesis.

SCIENTIFIC REFERENCES

Anthony JC, et al. Leucine stimulates translation initiation in skeletal muscle of postabsorptive rats via a rapamycin-sensitive pathway. J Nutr. (2000)

Drummond MJ, et al. Rapamycin administration in humans blocks the contraction-induced increase in skeletal muscle protein synthesis. J Physiol. (2009)

Blomstrand E, et al. Branched-chain amino acids activate key enzymes in protein synthesis after physical exercise. J Nutr. (2006)

Wang X, Proud CG. The mTOR pathway in the control of protein synthesis. Physiology (Bethesda). (2006)

PRODUCT HIGHLIGHTS

- 7g BCAA responsible for the activation of mTOR – which induces muscle protein synthesis.
- 3.2g Beta-alanine to help buffer acid in muscles thus delaying fatigue and increasing stamina.
- 5g creatine to rapidly regenerate ATP leading to increased performance, strength, and muscle.
- 5g glutamine to prevent muscle breakdown (catabolism) and increase muscle protein synthesis.

BETA ALANINE

Dosage: 3.2g

Beta-alanine: non-essential amino acid found naturally in the body and in meat. A maintenance dose of 1.5–3.0g/day is effective for keeping carnosine levels elevated post-supplement. Carnosine is able to buffer acid in muscle cells thus leading to greater training adaptations.

MORE IN-DEPTH INFORMATION:

During high intensity exercise, the formation of energy (ATP) and rise in hydrogen (H⁺) ions occurs. The rise in H⁺ ions is mainly due to lactic acid production, which lowers the body's pH [i.e. creating a more acidic state.] As the acidity rises, it's harder to contract the muscle and fatigue can result. Thus, if the body can combat the acidity, it can keep working harder.

The body's first line of defense against this acidic pH is inside the muscle cell. Carnosine is able to buffer H⁺ ions in muscle cells. Buffering can neutralize lactic acid and simultaneously increase ATP stores.

If we increase carnosine levels in cells through beta-alanine supplementation, we can enhance intracellular buffering and reduce acid accumulation during exercise. Therefore, in people doing exercise that causes significant alterations in cellular pH and high amounts of lactate in the blood, beta-alanine may improve performance and therefore lead to greater training adaptations. Along with buffering lactic acid, beta-alanine supplementation may help with healing, muscle recovery, and muscle contraction.

SCIENTIFIC REFERENCES

Harris RC, et al. The absorption of orally supplied beta-alanine and its effect on muscle carnosine synthesis in human vastus lateralis. Amino Acids. (2006)

Baguet A, et al. Beta-alanine supplementation reduces acidosis but not oxygen uptake response during high-intensity cycling exercise. Eur J Appl Physiol. (2010)

Artoli GG, et al. Role of beta-alanine supplementation on muscle carnosine and exercise performance. Med Sci Sports Exerc. (2010)

Hoffman JR, et al. Short-duration beta-alanine supplementation increases training volume and reduces subjective feelings of fatigue in college football players. Nutr Res. (2008)

CREATINE MONOHYDRATE

Dosage: 5g

Creatine is an amino acid derivative constructed from arginine, glycine and methionine. It is produced naturally by the body in the kidneys, liver, and pancreas at a rate of about 1–2 grams/day. Creatine can also be obtained from food [particularly red meat] and supplementation.

The energy needs of brief, rapid and powerful movements lasting fewer than



10 seconds, such as a short sprint, are met by the phosphagen system. This system quickly replenishes the stores of adenosine triphosphate, or ATP, which provides energy to the working cells. Muscles have an existing amount of ATP hanging around ready for action, but only a little bit – enough for a few seconds. ATP is broken down by removing a phosphate, which turns it into adenosine diphosphate (two phosphates). To make more ATP, the muscles need to get the missing third phosphate from somewhere, quickly.

This is where creatine phosphate comes in. It takes one for the team by donating its phosphate so that ADP can become ATP again, and so you can finish that sprint.

Because creatine plays a major role in this system, more creatine means more potential ATP, which translates into improved performance on short-duration, high-intensity tasks. Because long-duration, low-intensity activities rely more on a different energy system, they are not typically enhanced by creatine – in other words, creatine will help a sprint but not a marathon.

SCIENTIFIC REFERENCES

Safdar A, et al. Global and targeted gene expression and protein content in skeletal muscle of young men following short-term creatine monohydrate supplementation. Physiol Genomics. (2008)

Dempsey RL, Mazzone MF, Meurer LN. Does oral creatine supplementation improve strength? A meta-analysis. J Fam Pract. (2002)

Branch JD. Effect of creatine supplementation on body composition and performance: a meta-analysis. Int J Sport Nutr Exerc Metab. (2003)

GLUTAMINE

Dosage: 5g

Glutamine is the most abundant free amino acid in the human body, making up about 60% of the skeletal muscle amino acid pool. 5–10 grams daily is recommended. Glutamine is a conditionally essential amino acid, which means that normally our bodies don't need it from our diet. Supplemental glutamine is essential only under certain conditions, which include stress, trauma, muscular dystrophy, and illness, which can decrease glutamine levels by up to 50% (in severe cases).

Since the immune system is necessary for recovery from stress, glutamine may help during intense bouts of training. It may play a role in:

- Normalizing growth hormone.
- Promoting glucose uptake after workouts.
- Enhancing the hydration state of a muscle.
- Reducing acid buildup with exercise (more on acid-base balance).