

BCAA

Branched-Chain Amino Acids with Glutamine, Zinc, B-6 & B-12



Miracle fitness programs routinely compete for your pocketbook with promises of transforming your body into a fitness icon. Most of us, however, are more realistic in our training goals with concerns about maintaining personal fitness, keeping weight in check and looking and feeling great. A primary reason for not achieving fitness goals may be the lack of ability to recover from muscle fatigue which is common to those who overtrain. Source Naturals can help you achieve maximum training results with sound health advice and proven nutritional supplements. Specific essential amino acids have unique metabolic properties that directly activate muscle health and development. Source Naturals has harnessed the power of these “branched-chain” amino acids in our new formula, **BCAA**, available in a convenient capsule.

Source Naturals **BCAA** provides support for your body’s muscular system with a vigorous blend of branched-chain amino acids, leucine, isoleucine, and valine. Unlike many other products, our formula also includes supporting B-vitamins and glutamine for protein synthesis and zinc for healthy circulation. Research has shown that during exercise, branched-chain amino acids are metabolized directly in the skeletal muscle - a process that provides robust musculoskeletal fortification when your body needs it the most. **BCAA** may also increase energy and reduce occasional fatigue in support of your active lifestyle. Source Naturals has identified twelve SystemiCare™ metabolic systems which are critical for your health. **BCAA** addresses one of the most important -- Structure/Connective Tissue.



Strategies for Wellness™

BCAA

The term, branched-chain amino acids (BCAA), refers to three essential amino acids, L-leucine, L-isoleucine, and L-valine. Isoleucine is needed for hemoglobin formation, plus it stabilizes blood sugar and energy levels. Leucine works with isoleucine and valine to support the health of muscle tissue, skin and bones. Valine is important for muscle metabolism, coordination, and tissue health. It plays a role in the maintenance of proper nitrogen balance in the body and is used as an energy source by muscle tissues. Valine should always be in well-balanced proportion with L-leucine and L-isoleucine. Glutamine, a non-essential amino acid, supports the building of muscles and provides additional fuel during prolonged workouts. Zinc supports circulation and blood flow during exercise, and supports muscle recovery after intense workouts. Branched-chain amino acids undergo a conversion in the liver with the support of vitamins B-12 and B-6.

Exercise and Fatigue

Every athlete has experienced muscle fatigue and has lost the desire to exercise at some time. This probably occurs during periods of intense exercise when BCAAs are taken up by the skeletal muscle rather than the liver in order to contribute to energy production (oxidative metabolism). Since BCAAs make up about one third of the amino acid pool in muscles, this reservoir may become quickly depleted during times of metabolic stress. The decrease of **BCAA** plasma concentration increases the plasma concentration of free fatty acids (FFA). Increased FFAs compete with tryptophan, resulting in tryptophan crossing the blood-brain barrier and converting into serotonin. Serotonin can have a sedative effect on the central nervous system, causing fatigue and compromising athletic performance. BCAA combined with vitamins B-6 and

B-12 may increase energy and reduce occasional fatigue to support your active lifestyle.

Strategies for WellnessSM



www.sourcenaturals.com

The above information has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

©2010 Source Naturals, Inc., P.O. Box 2118, Santa Cruz, CA 95063

The Age Factor

Degenerative loss of muscle strength associated with normal aging seems to be prevalent in persons age 65 and over. After reaching this plateau in their lives, people may lose up to one third of their muscle mass and experience reduced muscle performance. Studies have shown us, however, that older muscle is still able to respond to amino acids which have been shown to stimulate muscle protein synthesis in older individuals. This may result in increased muscle strength, and a vastly improved quality of life for seniors.

The amino acids (leucine, isoleucine, valine and glutamine) are present in all protein-containing foods such as red meat, dairy, chicken, fish, eggs, and legumes. A healthy well-rounded diet in these food groups is a natural source of branched-chain amino acids. Supplemental BCAAs are not only useful for the body-building and sports performance communities, but for older adults who want to maintain muscle mass and youthful energy levels. Source Naturals **BCAA** is part of a line of superior products recommended for athletes and fitness-minded individuals. Source Naturals is committed to enhancing individual potential to enjoy optimal health and well-being by providing superior quality dietary supplements and nutritional education.

References

Calder PC, Yaqoob P. Amino acids and immune function. In Cynober L (editor). *Metabolic and therapeutic aspects of amino acids in clinical nutrition*. Boca Raton (FL): CRC Press; 2004, 305-320.

Suryawan A, Hawes JW, Weber JB, et al. A molecular model of human branched-chain amino acid metabolism. *Am J Clin Nutr*. 1998; 68: 72-81.

Fujita S, Volpi E. Amino acids and muscle loss with aging. *J Nutr*. 2006 Jan; 136 (1 Suppl): 277-280.

Zello GA, Wykes LF, Ball RO, et al. Recent advances in methods of assessing dietary amino acid requirements for adult humans. *J Nutr*. 1995; 125: 2907-15.



REVB1002 LC3465