

BCAAs

Source of essential amino acids involved in muscle protein synthesis



Branched-chain amino acids

The three branched-chain amino acids (BCAAs), leucine, isoleucine, and valine, are essential amino acids that the body is unable to synthesize on its own; therefore, they must be obtained from proteins in food or diet. These are 3 of the 20 different amino acids that make up the protein in muscle tissue. Unlike other amino acids, however, BCAAs are metabolized in the muscle and not the liver.¹ This is important as the muscles will uptake BCAAs when available. BCAAs, specifically leucine, have been shown to stimulate skeletal muscle protein synthesis.

The 2:1:1 ratio

The 2:1:1 ratio of leucine to isoleucine to valine is the same ratio that can be found naturally in skeletal muscle.² In the 1990s, early lab studies in animals demonstrated that the 2:1:1 ratio is ideal for supporting muscle tissue metabolism.^{3,4}

Why Metagenics BCAAs?

- Metagenics BCAAs supply clean, high-quality branched-chain amino acids
- Metagenics BCAAs are formulated with a 2:1:1 ratio of leucine to isoleucine to valine
- Assist in the building of lean muscle when combined with regular weight/resistance training and a healthy balanced diet
- Source of branched-chain amino acids (BCAAs), which are involved in protein synthesis
- Metagenics BCAAs come in a great-tasting orange mango flavour!

Form: Powder

Serving Size: 1 Scoop (7.3 g)

Serving per container: 30

Information per Serving:

One Serving (1 scoop)	7.3 g
Serving per Container	30
Calories	25
Sodium	40 mg

Medicinal Ingredients:

L-Leucine	3 g
L-Isoleucine	1.5 g
L-Valine	1.5 g

Non-Medicinal Ingredients: Natural flavours, citric acid, malic acid, rebaudioside A (*Stevia rebaudiana* leaf extract), and silicon dioxide.

Recommended Use: Workout supplement. Athletic support. Source of essential amino acids for the maintenance of good health. Source of essential amino acids involved in muscle protein synthesis. Assist in the building of lean muscle (tissue/mass) when combined with regular (weight/resistance) training and a healthy balanced diet. Source of branched-chain amino acids (BCAAs), which are involved in protein synthesis.

Recommended Dose: Adults blend shake or briskly stir 1 scoop (7.3 g) into 250 mL (8 fl. oz.) of chilled water before and after exercise or with a meal or as recommended by your healthcare practitioner.

Caution: Consult a healthcare practitioner prior to use if you are pregnant or breast-feeding. Ensure to drink enough fluid before, during and after exercise. Contents sold by weight, not volume. Some settling may occur during shipping and handling. Shake well before each use. Do not use if perma seal is missing.

This product is non-GMO, gluten-free, and vegetarian.

References:

1. Brosnan JT, Brosnan ME. Branched-chain amino acids: enzyme and substrate regulation. *J Nutr.* 2006;136 (1 Suppl):207S-11S. Review.
2. Campbell B et al. International Society of Sports Nutrition position stand: protein and exercise. *J Int Soc Sports Nutr.* 2007;4:8.
3. Iwasawa Y et al. Optimal ratio of individual branched-chain amino acids in total parenteral nutrition of injured rats. *JPEN J Parenter Enteral Nutr.* 1991;15(6):612-618.
4. Elango R et al. Parenteral and enteral routes of feeding in neonatal piglets require different ratios of branched-chain amino acids. *J Nutr.* 2004;134(1):72-78.

Complementary products:

- **ElectroPlus:** Source of electrolytes
- **Mitovive:** Supports muscle recovery process
- **Perfect Protein™:** High-quality protein available in Whey or Pea and Rice options

› Talk to your healthcare practitioner today about **BCAAs** or visit MetagenicsCanada.com for more information

