

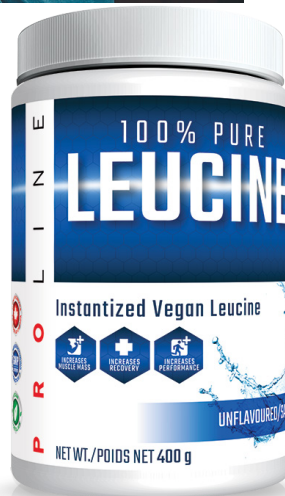
100% PURE LEUCINE



PROLINE's **Leucine** promotes muscle protein synthesis via two different methods. Both, lead to the activation of mTOR – the fundamental route to all cell synthesis in the body. Studies have shown that adding a leucine supplement to your diet improves the synthesis of muscle protein.

Leucine's effects on muscles focus on the production of skeletal protein, this means that the additional protein is produced as muscle mass. Leucine works as an anabolic trigger, and is metabolized directly in muscle tissue. Increasing muscle protein synthesis keeps you in a state of positive nitrogen balance, which is what you want to be if you're trying to build muscle mass.

Leucine is the amino acid that is thought to be most potent at stimulating MPS. Peak plasma leucine concentrations following protein ingestion typically correlate with muscle protein synthesis rates (Pennings, 2011). This supports the notion that protein digestion rate and protein leucine content are important predictors for anabolic effect of a protein source.



Medicinal Ingredients / Ingrédients Médicinaux

Amount / Quantité	per 1 Scoop (5.0 g) / par 1 cuillère (5,0 g)	per 100g / par 100 g
Leucine	5.0 g	100.0 g

Recommended Use: Mix 1 scoop of **100% PURE LEUCINE** into 250ml of water or your favourite beverage, preferably on an empty stomach, twice per day.

Utilisation recommandée : Mélanger 1 cuillère de **100% PURE LEUCINE** dans 250ml d'eau ou de votre beverage préféré 2 fois par jour.

This essential amino acid can also help regulate blood sugar, per the University of Rochester Medical Center. In fact, when leucine was ingested with glucose, it reduced the blood glucose response and strongly stimulated extra insulin production, per a small December 2008 study in Metabolism.

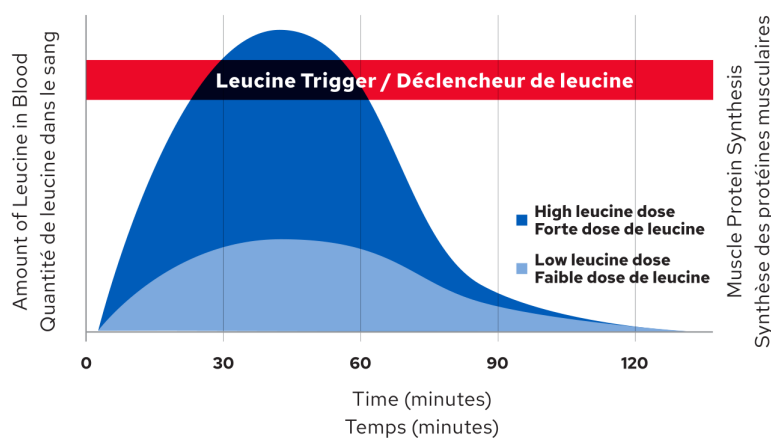
Anabolic resistance is a well-established phenomenon during aging, with cells becoming more resistant to turning on protein synthesis. This can be partly ameliorated with extra leucine, as research indicates that as we get older we need twice as much leucine compared to younger adults for similar activation of MPS. Leucine is an essential amino acid that is integral to the synthesis of muscle. The leucine structure contains an alpha-amino group, an alpha-carboxylic acid group and a side chain isobutyl group, making it

a branched-chain amino acid. Branched-chain amino acids cannot be produced by the body and need to be obtained from food sources. These amino acids are broken down in the muscles instead of the liver, helping to enhance energy production and muscle synthesis during exercise.

However, leucine is often considered preferable to other branched-chain amino acids because it's broken down and absorbed more rapidly, allowing it to be used more readily than other types, such as isoleucine and valine.

The leucine amino acid can also be broken down directly into acetyl-CoA, making it one of the most important Ketogenic amino acids in the body. While most other amino acids are converted into glucose, the acetyl-CoA formed from leucine can be used to make ketone bodies.

Leucine Trigger / Déclencheur de leucine



IT HAS BEEN SHOWN THAT LEUCINE ACTIVATES A MAJOR COMPLEX IN THE ANABOLIC PATHWAY CALLED mTOR (MAMMALIAN TARGET RAPAMYCIN).



BENEFITS OF LEUCINE

- Leucine ingestion stimulates tissue protein synthesis via mTOR (mammalian target of rapamycin pathway) in a dose-dependent fashion.
- Leucine promotes energy partitioning (decreased energy storage in adipocytes and increased fatty acid utilization in muscle).
- Leucine acts as strong insulin secretagogue when administered in combination with a carbohydrate; increased protein synthesis is facilitated by increased insulin.
- Leucine is able to extend the postprandial duration of muscle protein synthesis.
- Leucine exerts a thermogenic effect.
- Leucine augments weight and adipose tissue loss during energy restriction.
- Leucine stimulates a rise in plasma leptin.