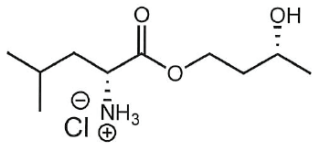
Improving Exercise Performance, Recovery and Muscle Development

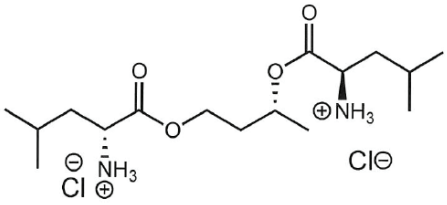
BYU #2018-008

DESCRIPTION

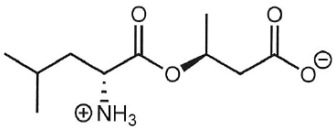
This invention consists of a novel molecule that was created by bonding the amino acid leucine with a ketone precursor (i.e. butanediol/beta-hydroxybutyrate). The molecules are split apart upon ingestion, thus providing a fuel source (i.e. ketone) and a building protein signal (i.e. leucine).



Leucine ester with butane-1,3-diol



Double Leucine ester



Ester with beta-hydrox butyrate

PROBLEM SOLVED

Within the realm of athletic performance, ketones are increasingly used as a viable and even superior fuel. However, because the process of making ketones endogenously is a state typified by low insulin and low carbohydrate intake, there is some concern about the loss of anabolic (i.e. growth) signaling in skeletal muscles. This invention addresses that concern by providing both a ketone source and a key amino acid, which have both been shown to activate mTORC1, a biochemical pathway that regulates muscle growth and recovery.

KEY ADVANTAGES

- ***Ketones protect against oxidative stress, which abounds with exercise***
- ***Ketones mitigate inflammation***
- ***Ketones and leucine activate anabolic signals in muscle, promoting muscle growth and recovery***

Offer:
License
Exclusive
World Wide
All Fields of Use

APPLICATIONS

This invention is an ideal supplement for people engaged in all activities that benefit from readily available fuel and recovery from muscle damage.

IP Status:
Patent Pending

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