

# WHAT ARE BCAAs?

**BRANCHED-CHAIN AMINO ACIDS** (BCAAs) are the building blocks of protein, and are known to promote healthy muscle growth and retention.

BCAAs ALLOW FOR MORE  
**INTENSE WORKOUTS**  
& FAST RECOVERY TIMES.



UP TO  
**18%**  
OF ENERGY USED  
WHILE WORKING  
OUT COMES  
FROM BCAAs.

**CHRONIC  
MUSCLE LOSS  
IMPACTS  
APPROXIMATELY  
30%**  
OF THOSE OVER  
THE AGE OF 60.

BCAAs ARE  
THE **ONLY AMINO  
ACIDS METABOLIZED  
INSIDE OF THE  
MUSCLE ITSELF**, &  
MAKE UP ABOUT  
**35%**  
OF MUSCLE TISSUE.

MUSCLE MASS  
DECLINES AN  
AVERAGE OF  
**2%**  
EACH YEAR  
AFTER THE  
AGE OF 50.

## HOW & WHEN THEY'RE EFFECTIVE

### P.M.

- Reduce hunger
- Reduce muscle breakdown during the night

### A.M.

- Stop breakdown of muscle from the nightlong fast
- Provide energy boost
- Reduce hunger

### POST-WORKOUT

- Aid muscle recovery

### PRE-WORKOUT

- Provide energy boost
- Aid muscle strength

### SOURCES

- *The Biophysical Foundations of Human Movement*,  
Second Edition

- *The American Journal of Clinical Nutrition*,  
May 2008

- *International Journal of Sports Nutrition*, June 1996