



## Dietary essential amino acids from protein stimulate muscle growth after resistance exercise

Dietary protein, including soy protein, provides indispensable amino acids necessary for protein synthesis in muscle and other tissues. The accretion of muscle mass in response to dietary protein and resistance training has recently been reviewed. [1]; [2] Both muscle protein breakdown and synthesis are increased in response to exercise. Amino acids intake further stimulates muscle protein synthesis after exercise as a consequence of stimulating amino acid transport into the intramuscular compartment. [1] Similar findings were reported by Brown, et al. in a nine-week study measuring lean mass gain in experienced male weightlifters; soy protein was as good as whey protein for lean mass gain. In addition, soy also promoted a favourable effect on oxidative status, [3] an observation that was also reported by Bazzoli, et al. in a four-week study. [3] Long-term studies are needed to determine if there are meaningful clinical differences in the ability of high-quality proteins as soy, whey and casein to stimulate muscle growth in response to resistance exercise.

## Combine weight training with protein intake after exercise to increase muscle mass

A nutrition regimen that accelerates muscle amino acid availability early after resistance exercise is vital for promoting muscle growth.

When resistance exercise is followed by increased amino acid availability, the muscle protein synthesis rate is increased more than with exercise alone or amino acid intake alone.

[4][5][6] The greater window of opportunity to gain muscle appears to be within first three hours after resistance exercise. When weight training is combined with feeding protein during the early hours after exercise, it leads to significant increases in muscle mass compared to delaying the same feeding. [7][8]

A delay in protein availability may result in failure of a weight training plan, leading to muscle loss or no gain. [9]

