WHEY PROTEIN: WHY AND HOW

ALL PROTEINS ARE NOT CREATED EQUAL

Different types or sources of protein contain different combinations of amino acids (the building blocks of protein). High-quality proteins contain essential amino acids, "essential" because they need to be obtained through the food you eat. Including high-quality proteins in your diet, such as whey protein, can help you achieve your fitness goals.

QUALITY MATTERS

Whey protein is a high-quality dairy protein that has all the amino acids necessary to build and maintain muscle mass. It efficiently increases the production, or synthesis, of muscle protein because it is one of the best sources of naturally-occurring branched-chain amino acids (BCAA), specifically leucine, which has been shown to independently stimulate muscle protein synthesis.[1]

A TERRIFIC WORKOUT PARTNER

Research shows that consuming whey protein in combination with resistance exercise can increase the rate at which the body makes lean muscle mass,[2,3] which may improve body composition. In fact, a combination of protein intake and resistance exercise yields better results compared to either of the two alone[4] or combining resistance training with drinking a beverage that contains only carbohydrates.[5]

GRAB IT AND GO

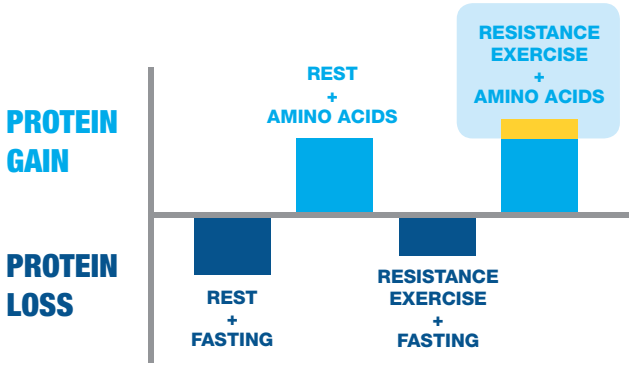
As few as 20 grams of whey protein can stimulate protein synthesis in the body.[3] One energy bar can contain 8 to 25 grams of whey protein.

Foods containing whey protein: dairy-based beverages, yogurt, nutrition and energy bars, ready-to-drink beverages, powder for smoothies and shakes, beverage mixes and meal replacements.

BCAA & Leucine Content of Food Ingredients

	BCAA	Leucine
whey protein isolate	26%	14%
casein	23%	10%
milk protein	21%	10%
egg protein	20%	9%
soy protein isolate	18%	8%
wheat protein	15%	7%

Adapted from: Layman DK, USDA Food composition Tables. *J Nutr* 133:261S–267S, 2003.



Adapted from: Phillips SM et al, Protein requirements and supplementantion in strength sports. *Nutrition*. 20: 689–695, 2004.

HOW TO SPOT WHEY PROTEIN ON THE PACKAGE

INGREDIENTS: WHEY PROTEIN CONCENTRATE, WHEY PROTEIN ISOLATE, HYDROLYZED WHEY PROTEIN, CHOCOLATE FLAVORED COATING (SUGAR, PARTIALLY HYDROGENATED PALM KERNEL OIL, NONFAT DRY MILK SOLIDS, COCA POWDER PORCESSED WITH ALKALI, WHOLE MILK SOLIDS, SOY LECITHIN, NATURAL FLAVOR, SALT AND ARTIFICIAL FLAVOR), GLYCERLEAN, PEANUTS, CARAMEL, SUGAR, HIGH FRUCTOSE CORN SYRUP, WHEY PROTEIN CONCENTRATE, WATER, NATURAL AND ARTIFICIAL FLAVOR, PEANUT FLAVORED COATING.

NATIONAL DAIRY COUNCIL®

www.nationaldairycouncil.org/wheyprotein

[1] Layman DK. The role of leucine in weight loss diets and glucose homeostasis. *J Nutr* 133: 261S–267S, 2003.
[2] Burke DG et al, The effect of whey protein supplementation with and without creatine monohydrate combined with resistance training on lean tissue mass and muscle strength. *Intl J Sport Nutr Execr Metab* 11(3): 349–64, 2001.
[3] Tipton KD et al, Ingestion of casein and whey proteins result in muscle anabolism after resistance exercise. *Med Sci Sports Exerc* 36(12): 2073–2081, 2004.
[4] Phillips SM et al, Protein requirements and supplementation in strength sports. *Nutrition* 20: 689–695, 2004.
[5] Miller SL et al, Independent and combined effects of amino acids and glucose after resistance exercise. *Med Sci Sports Exerc* 35(3): 449–455, 2003.