

# PROTEIN SUPPLEMENT POWDERS



## ■ ■ ■ Description

Protein is one of the five main components of human nutrition, along with carbohydrates, fats, fibers, and fluids. Protein is essential in our diet to form many of the structural building blocks of the human body. Among these are the proteins that form muscle and other components of the musculoskeletal system, as well as many of the enzymes and hormones that regulate the many functions of the internal organs. Amino acids are the building blocks that make up proteins. These proteins are broken down continuously and need to be replaced regularly. Some of these amino acids can be manufactured by the body, but others cannot, and it is essential that they be introduced in our nutrition.

## ■ ■ ■ Why Athletes Use It

- To build muscle and repair the damage of exercising muscle
- To make red blood cells, enzymes, and antibodies
- To maintain hair, skin, and fingernail health
- To maintain regular menstrual cycles in athletic females

## ■ ■ ■ Adverse Effects

- Gastrointestinal distress
- Constipation
- Tissue dehydration
- Increased stress on kidneys to remove the proteins

## ■ ■ ■ Pharmacology

An average adult should use 0.8 g/kg of lean body mass to maintain normal daily functioning. Athletes, however, break

down muscle due to their vigorous activities and should take larger quantities of protein. Studies demonstrate that strength athletes should take 1.4 to 1.8 g/kg and endurance athletes need 1.2 to 1.4 g/kg to replace their protein breakdown. As an athlete's conditioning improves through a training program, the protein breakdown may then diminish and this protein requirement may actually decrease. Although studies exist that demonstrate the benefit of increased protein intake in athletes, there are no well-designed scientific studies that demonstrate enhanced performance with amino acid supplementation, nor any that show a benefit to protein doses greater than 2 g/kg.

## ■ ■ ■ Preventive Measures

As with any supplement, Food and Drug Administration (FDA) regulation is lacking, and therefore impurities in the product cannot be ruled out. Any protein or amino acid supplementation provides an osmotic force that absorbs free water, so adequate fluid intake is critical to avoid dehydration and constipation. Finally, avoidance of overdosage is critical, so as not to result in damage to the kidneys. Always remember to take into account the grams of protein you may be ingesting in a diet that contains lean meats and protein sources such as milk, eggs, yogurt and cheeses, as well as beans, rice, tofu, legumes, and grains. If you take in enough of these foods, supplementation may not be necessary and may result in overdosage. Consultation with a qualified sports nutritionist can help eliminate these possibilities.

Notes:

(Up to 4400 characters only)

Notes and suggestions