PROTEIN SUPPLEMENTS

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ABSTRACT

Some studies show that taking protein supplements during or after a workout is better for gaining strength than eating foods high in protein is. Is this really true and are protein supplements harmful to the body in any way? The following research was obtained through internet sources. There are many different kinds of protein supplements including whey, casein and soy that all claim to be beneficial in their own specific way. Different research recommends different daily values for protein and how that protein is consumed remains to be decided.

INTRODUCTION

The building blocks of protein are amino acids and protein is the second most plentiful substance in the human body behind water (8). Not all of the more than twenty amino acids can be produced by our bodies and therefore the other "essential amino acids" need to be taken in as food. If to little protein is consumed, skeletal muscle loss can result (5). This is detailed in a fourteen week study, during which the amount of protein in the test subject's diet was controlled.

In order to guarantee a sufficient amount of protein, athletes and bodybuilders add protein supplements to their diets. Three major types of protein used in supplements are whey, casein and soy proteins (1). Taking a protein supplement during a workout or at a meal can decrease recovery time and increase strength by providing the protein necessary to repair muscles. My hypothesis is that eating foods high in protein is safer and just as effective, if not more so, than taking protein supplements.

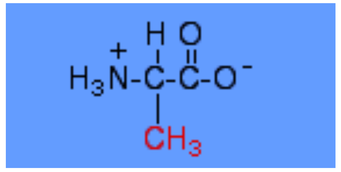


Figure 1. Structure of the amino acid alanine (7).

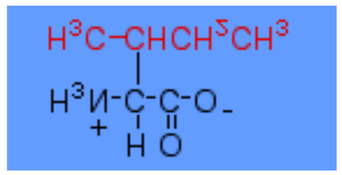


Figure 2. Structure of the essential amino acid isoleucine (7).

METHOD

Analyze peer-reviewed scientific literature in order to explain the health benefits or disadvantages of protein supplements.

RESULTS

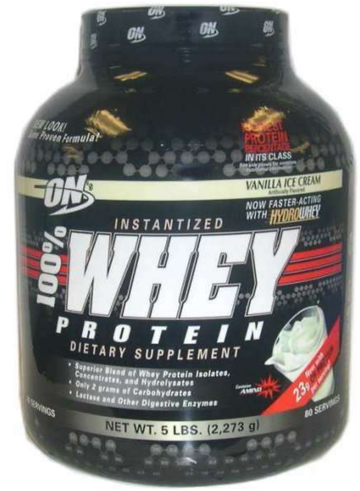
The three major kinds of protein supplements are casein and whey protein, both found in milk, and soy protein (1). It is very important to know what you are putting into your body. In one documented instance, a woman went to the emergency room with an anaphylactic reaction to a dietary supplement she took (3). In another study, women who ate fish had a lower risk of stroke than those who did not. The fish they ate is also a good source of protein. According to this study by eating fish as a source of protein, one can also reduce the risk of stroke (9). Other research promotes the intake of only plant protein (4). The research in this book leads to the conclusion that animal protein causes cancer and plant protein does not (4). So, based on this study, only protein from plants should be ingested because plant protein is the only protein shown not to cause cancer.

A study detailed in the American Journal of Physiology concluded that an intake of essential amino acids after resistance exercises increased net muscle protein balance (2).

Table 1. Essential and non-essential amino acids (10).

Non-Essential Amino Acids	Essential Amino Acids
Alanine	Isoleucine
Arginine	Leucine
Asparagine	Lysine
Aparatate	Methionine
Cysteine	Phenylalanine
Glutamine	Tryptophan
Glutamate	Valine
Glycine	Histidine
Proline	
Serine	
Tyrosine	

Figure 3.
Example of a commercial whey protein supplement (7).



CONCLUSION

The research I found suggests that protein supplements can aid in strength gain if used carefully. However, food has many advantages over protein supplements because it can provide other nutrients not found in supplements. A well balanced diet can provide all the protein the body needs and more.

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