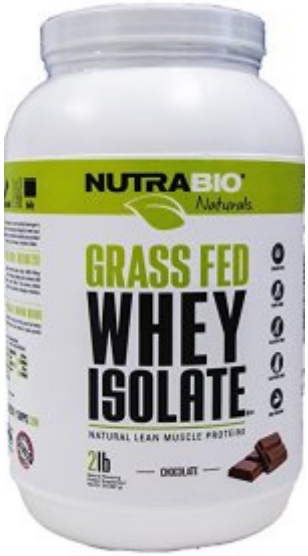

4 Reasons to Take Whey Protein for Muscle and Health

I made this short video to discuss the 4 reasons to take whey protein for muscle and health. (Article continues below.)

Fast Protein

Whey protein is “fast”, which in this case doesn’t mean that you can prepare it and down it quickly, although you certainly can – prep time from start to stomach is about a minute. But here it refers to speed of digestion. The proteins in whey have a structure that makes them easily broken down into their constituent amino acids, and they therefore hit the blood stream and the muscles quickly. In contrast, a protein like casein, or meat proteins, take much longer to digest. In certain cases, slow digestion is beneficial, otherwise nature wouldn’t have made them that way.

But when we’ve been lifting weights, muscles are primed to grow. Researchers have suggested several reasons for why this happens, but very simple reason may be that the blood vessels going to the muscles have all opened up greatly to increase the movement of blood to them, facilitating the provision of oxygen and nutrients and the removal of the cellular waste products of metabolism. Whey digests quickly, and then its amino acids hit the muscles right when they’re most susceptible to growth stimulation. Therefore, timing of protein ingestion can be important.

Other studies have found a lesser or even no effect, and much of this seems due to nutrient status of the trainee, e.g. whether he’s fasted or fed, other types of foods he eats, calorie intake, etc. But since I want to ensure that

I get the biggest bang for my workout buck, I take whey protein immediately after every workout. Research shows that taking it immediately before a workout may be just as effective.

Branched-Chain Amino Acids

The branched-chain amino acids (BCAAs) are leucine, isoleucine, and valine, and they're important for muscle growth. While past researched focused on all three, more recent research has fingered leucine as the most important, as it acts as a signal for muscular growth. (Absence of leucine promotes autophagy, the cellular self-cleansing process, and when enough tissue has been broken down via this process, leucine rises in the blood stream and shuts off autophagy via a feedback mechanism.)

Whey contains about 25% BCAAs, which is the highest of any protein, therefore it's the best muscle growth stimulant.

Essential Amino Acids

Amino acids, the building blocks of protein, are of two types, essential and inessential. Inessential amino acids are those that the human body can make from other molecules, and therefore they don't need to be supplied by food. The body can't make the essential amino acids, of which there are nine, and therefore the diet must supply them.

Only essential amino acids build muscle. Provision of extra inessential amino acids does not stimulate extra muscle growth, and if sufficient essential amino acids are not present, muscle won't grow.

Whey protein is about 50% essential amino acids, again among the highest of any protein.

Cysteine

Cysteine is a sulfur-containing amino acid, and whey contains an abundant amount of it. Cysteine is important in the synthesis of glutathione, the body's most important internal antioxidant.

When the body metabolizes to create energy, it also creates free radicals as a byproduct, and these are reactive molecules that can cause molecular and cellular damage. The cells endeavor to keep free radicals under control, neither too many nor too few of them, since besides their potential for damage, they are also important signaling molecules. (Free radicals drive much of hormesis, for example.) It does this through a tripeptide (a string of three amino acids) called glutathione.

Glutathione is made from cysteine, glutamine, and glycine, and of these three, cysteine is the rate-limiting constituent, the bottleneck. Provision of cysteine therefore promotes glutathione synthesis. Lack of cysteine promotes excess free radicals, leading to oxidative stress, a condition to be avoided.

This has benefits not just for athletes, but in aging as well, which has been characterized as a cysteine-deficiency syndrome.

Conclusion

Whey is of great benefit to athletes, and can help the elderly too.

Between 20 and up to 40 grams of whey can be taken before or after a heavy exercise session (yes, endurance athletes benefit too), although amounts higher than 20 grams appear to give diminishing returns.

By the way, if you watch the video above, I display a container of NutraBio Grass-Fed Whey Isolate. In view of the fact that I've said that grass-fed isn't necessarily a big improvement over regular whey, I should explain that the NutraBio company comped me the whey. Nevertheless, it's chocolate, has no sugar (it's sweetened with stevia), and is quite tasty, and you can buy it here.

PS: I discuss whey and other proteins in my new book, Best Supplements for Men.

PPS: Check out my Supplements Buying Guide for Men.