

Whey's Numerous Health Benefits

Long recognized as a good and cost-effective source of protein, science is uncovering new benefits of this byproduct of cheese-making.

By Mark Anthony, Ph.D., Technical Editor | 10/04/2011

Whey is the byproduct of cheese-making, the liquid portion that contains all the water-soluble benefits of the milk with less of the allergy potential of milk proteins, such as casein.

Anyone concerned about creating products such as sports bars and beverages (see [Energy Drinks Take Aim at Busy Consumers](#)) is tuned into whey. When it comes to providing for diets needing increased concentrations of protein, whey is an ideal ingredient.

Protein provides the building blocks for muscle, and certain segments of the population need concentrated protein for building and maintaining lean muscle mass. Examples include those active in sports or persons in recovery. Also, pregnant women, children and teens have a greater need for protein for tissue growth.

Athletes have an increased need for protein to rebuild muscle tissue broken down during strenuous workouts. Although they need a lot more fuel, especially from carbohydrates, protein, too, is critical to performance.

While there are many dietary sources of lean protein, such as chicken, fish, lean beef and eggs, lifestyles, dietary habits, dietary restrictions and personal preferences can affect the selection of protein. And athletes breaking down significant amounts of protein can benefit from a concentrated amount.

For nonathletes, eating sufficient protein for temporary increased needs can be difficult due to illness, injury or age. All of these reasons can make supplementing the diet with whey protein a method of meeting protein demands, without intake of excess calories from carbohydrates or fat.

Another important advantage of whey protein is that it can help promote satiety and, based on recent studies, possibly provide some anti-inflammatory activity. This has led to whey protein being a popular ingredient for weight loss and weight management formulations.

The Biological Value of a protein (BV) is an expression of how well that protein is absorbed and utilized by the body. Nutritionists long have recognized that the quality of protein found in eggs is considered the gold standard by which all other proteins are measured. Ranking protein from the egg white at 100 implies the full measure of protein from egg is metabolized (although with adjustments the number falls to 94 percent). But whey weighs in with a BV of 104 – putting it way above many traditional sources of protein, and even a hair above egg.

In formulations, whey protein proves highly versatile. It can be easily added to dairy-based beverages (such as smoothies or shakes), bars and other forms of nutritional supplements that make it easy to consume protein in amounts that would be impossible through the consumption of beans, meat or vegetarian alternatives. For those with allergies to soy, whey protein is a great alternative, as allergies to whey protein are rare.

There are other potential benefits of whey protein. Wound healing is an energetically costly process that involves rebuilding tissue. A recent study in the British Journal of Nutrition demonstrated the positive effects of whey protein on healing wounds in animals.

Individuals fighting cancer or recovering from surgical procedures can also benefit from a diet that includes whey protein. Mounting an immune response to battle cancerous tumors requires nutritional support that must include a good source of

protein. Using animal models, scientists have shown that whey protein is superior to other forms of protein in suppressing tumor development.

This superiority is attributed to whey protein's high content of active dipeptide fractions — specifically cystine/cysteine and gamma-glutamylcysteine — which serve as the raw material for making glutathione, which acts as a potent antioxidant. In other words, whey protein can actually help the body make its own antioxidants.

For processors, the best news is that whey protein is highly versatile. Ingredient providers have come up with a variety of ways to integrate this valuable protein into bars, shakes, smoothies and even water beverages. Modern methods of dispersion can place whey protein into nearly any application with no trace of off-taste or undesirable texture. It looks little Miss Muffet might have been onto something.