

## Clinical Insights



### ***Therapeutic Applications of Whey Protein***

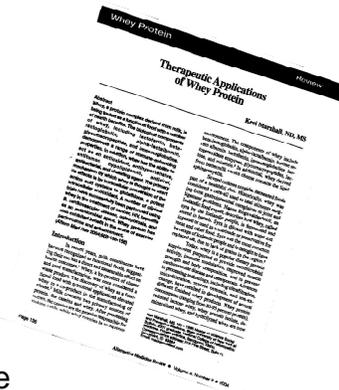
Altern Med Rev 2004;9(2):136-156

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*Alternative Medicine Review Volume 9, Number 2, 2004*

#### **Abstract:**

- **Whey Protein** is a popular dietary supplement purported to provide immune modulation, improved muscle strength and body composition and to prevent cardiovascular disease and osteoporosis.
- The biological components of **Whey Protein** demonstrate a wide range of immune-enhancing properties. The primary beneficial components are:
  - Lactoferrin
  - Beta-lactoglobulin
  - Alpha-lactalbumin
  - Glycomacropeptides and
  - Immunoglobulins
- **Whey Protein** has been shown to have the ability to act as an:
  - Antioxidant
  - Antihypertensive
  - Antitumor
  - Hypolipidemic
  - Antiviral
  - Antibacterial and
  - Chelating agent
- **Whey Protein's** primary health benefit is thought to be the mechanism of intracellular conversion of its amino acids to "glutathione", a potent intracellular antioxidant.
- A number of clinical trials have successfully been performed using **Whey Protein** in the treatment of:
  - Cancer
  - Hepatitis
  - HIV
  - Antimicrobial Disease
  - Cardiovascular Disease
  - Exercise Enhancement
  - Obesity



## **Wheying The Positives**

Angela M. Miraglio, R.D.; Contributing Editor



### **Overview:**

- Although *Whey Protein* contains vitamins and minerals its proteins are emerging as the nutritional powerhouse. In vitro, animal and limited human studies indicate that Whey Protein exhibits antimicrobial, antiviral, immuno-modulating and anticancer activities, and may contribute to cardiovascular and gastrointestinal health, physical performance and weight management.

### **Helping The Fit and Unfit**

- Athletes and even couch potatoes may benefit from *Whey Protein*. BCAA's, especially leucine, help maintain muscle mass through protein synthesis, which is important for athletes and those on weight-loss programs.

### **Weight Management**

- For weight management, BCAA's not only appear to preserve lean muscle mass but also influence glucose homeostasis and adipose tissue regulation.
- Other research suggests that the ACE-inhibitory action of Whey Protein and peptide fractions may play a part in its anti-obesity effects.

### **Cardiovascular Health**

- On the cardiovascular scene, *Whey Protein* peptides act as ACE-inhibitors to lower blood pressure and may help control hypertension.

### **Nutrition for Seniors**

- Easy-to-digest *Whey Protein* offers nutrition for seniors. Its high-quality protein alone merits its inclusion in diets for seniors who typically do not consume adequate protein. Beyond off-setting the compromised immunity and muscle loss from a lack of protein during aging, whey components may improve intestinal health and positively impact many chronic diseases, such as hypertension, heart disease, osteoporosis and cancer. Studies suggest that Whey Protein could increase glutathione to protect against oxidative stress in those with Alzheimer's disease.

Better Nutrition; November 2003

## **Whey Protein No Fat – And May Fight Cancer**

Edmund R. Burke, PhD., Dir. U.S. Olympic Cycling Team



### **Overview:**

- Whey protein once thought to be a useless by-product of cheese production, has recently become one of the most popular protein supplements. Although Whey Protein is more expensive than casein or soy protein, it has a number of advantages over these other protein supplements.

### **Injury Repair & Pain Control**

- Because of its high biological value (BV), less Whey Protein is needed than other protein supplements to accomplish tissue repair, growth and recovery.
- Whey Protein Isolate (WPI), contains “quadra-peptides which have been shown to have pain-killing effects.
- Whey Protein plays a direct role in bone growth. Studies show it may increase the level of bone proteins such as collagen and strengthen the bones.

### **Antioxidant Protection**

- One of the greatest benefits of *Whey Protein* is that it enhances glutathione production, one of the body’s natural antioxidants.
- Therefore, in addition to supplying protein, Whey can help to protect against free-radical damage.

### **Unique Health Benefits**

- Researchers have discovered that Whey Protein provides other unique health benefits such as fighting infections and perhaps even fighting cancer.

### **Ideal Protein**

- Whey Protein is the ideal protein for several reasons:
  - Highest content of BCAA’s
  - Digested more quickly
  - Better mixing characteristics
  - Reputation for higher quality
  - Ideal for both hard-training athletes and sedentary people