

Action Whey™ with BioCysteine3™

The Superior Choice For Glutathione Production

Glutathione is a key cellular component, known as the body's most powerful antioxidant. It is a tri-peptide constructed from three amino acids through a special enzymatic process and appears in all cells and tissues.

Glutathione is a tri-peptide (very small protein), which means it is made from three specific amino acids: Glycine, Glutamic Acid, and the all-important Cysteine. Glutathione is the general term used to describe Glutathione Sulfhydryl (GSH).

Glutathione is produced within the cell from these three amino acids. Of these three, Cysteine is the most important because its availability is what determines how much Glutathione your body can produce. Unfortunately, a quality source of naturally occurring Cysteine is absent or deficient in many diets. In fact, one scientist has proposed the idea that aging is largely due to a simple deficiency of this one key amino acid – Cysteine.

When the body experiences a deficiency of Cysteine, your cells cannot produce adequate levels of Glutathione. This causes a greater degree of cellular oxidation, a decline in health, accelerated aging, accumulation of toxins, and less protection from disease.

The main function of glutathione is to protect the cell and mitochondria from oxidative and peroxidative damage. Meaning glutathione isn't just an endogenous antioxidant; it is also an essential factor in energy utilization. Indeed, mitochondrial dysfunction, muscle weakness, fatigue and aging are linked to glutathione deficiency. And low glutathione levels are linked to energy deficiency (low ATP). Evidently, the main mechanism that triggers glutathione synthesis in the body is cellular energy. High cellular levels of energy molecules (ATPs) promote glutathione synthesis. This is one major reason why exercise is so beneficial in boosting glutathione and overall health.

To put it simply, Glutathione performs three major roles in the body:

Antioxidant:

Glutathione is clearly understood to be the most powerful antioxidant known to the human body. Thus, it is commonly referred to as "*The Master Antioxidant*".

In fact, the effectiveness of other well known antioxidants like Vitamin C, Vitamin E, Lipoic Acid, and Selenium depends on the presence of Glutathione. All of these antioxidants work synergistically together with Glutathione at center stage. Ultimately, it is Glutathione that neutralizes the free radicals and allows the other antioxidants to be recycled back onto the battleground.

Detoxifier:

The Glutathione enzyme system helps eliminate numerous toxins from the body including pollutants, heavy metals like mercury and lead, carcinogens, radiation damage, and drug metabolites.

Glutathione's highest concentration is in the liver, the body's primary detoxification organ. Studies have shown that low levels of Glutathione lead to poor liver function. When the liver suffers, the entire body suffers from an increased toxin load.

Immune System Enhancer:

Glutathione plays a central role in the proper function of our immune cells, especially in the production of white blood cells. The immune system uses a variety of immune cells to ward off pathogens and other threats. The growth and activity of these cells depends on the availability of Glutathione.

When your body has sufficient levels of Glutathione, it will fight off illness better than if your levels are deficient.

Clearly, Glutathione is perhaps one of the most important components of overall health yet discovered. When our levels of Glutathione are sufficient or elevated, we are better able to prevent illness, disease, and many of the degenerative processes of aging.

When our Glutathione levels are deficient, we become much more vulnerable to pathogens, toxins, cellular damage, carcinogens (cancer causing agents), radiation, and virtually every other threat known.

What Foods Best Promote Glutathione Production and Preservation?

Numerous scientific references focus on the one natural food source that best promotes glutathione production: the natural (non-denatured) conformation of whey protein as found in fresh, raw milk. Quality non-denatured whey provides not just all the key amino acids for glutathione production (cysteine, glycine and glutamate); it also contains a unique cysteine residue, glutamylcysteine, which is highly bioactive in its affinity to convert to glutathione.

Glutamylcysteine is a bonded cysteine molecule (cysteine + glutamate) which naturally occurs in the Bovine Serum Albumin – a fragile immuno-component of the whey. Note that this unique cysteine residue is exclusive to whey and rarely appears in other protein foods. These factors make natural, non-denatured whey protein the best glutathione promoting food source currently known to science.

However, it is critical that the whey protein conformation not be damaged (denatured) during the processing. The majority of commercial whey proteins are denatured via high-heat pasteurization, mechanical stress, and other processes that utilize acidic bathes, ion-exchange, or hydrolization. All of these common techniques diminish the protein's ability to support intracellular glutathione production.

Furthermore, quality whey provides other critical, but fragile co-factors: immunoglobulins, lactoferrin and alpha lactalbumin (also a great source of cysteine) which all together help create the right metabolic environment for high glutathione activity.

Whey is not the only food that promotes glutathione. Other whole foods including cheese, fish, eggs, nuts, seeds, germs, roots, vegetables and fruits can help promote glutathione or work as co-factors. However, these foods have little impact in creating significant changes in a person's glutathione status.

The net increase in glutathione levels depend not just on the factors that boost glutathione but also on the factors that prevent glutathione from declining. A natural glutathione boost clearly depends on the REDUCTION of elements that deplete glutathione. Most notable among them are chemicals, toxins and sugar.

Action Whey™ with BioCysteine3™

Action Whey™ is designed to provide all the necessary elements for naturally boosting glutathione and also preventing its decline.

1) It provides all the key amino acids, particularly cysteine, which occurs in its most bioactive form, glutamylcysteine, as part of the bovine serum albumin component in BioCysteine3™ (about 5%). As noted, glutamylcysteine rarely appears in other protein sources. Cysteine is habitually destroyed through cooking or heat/acid processing and is therefore deficient in most protein foods and products.

BioCysteine3™ is processed in a careful manner that meets GMP and FDA standards and requirements while also protecting the fragile protein conformation (non-denatured). This is critical to retaining all the original benefits that would be found in fresh raw whey – the optimal form of consumption. The fragile Cysteine peptide bonds are also maintained as necessary for optimal intracellular glutathione production.

Not only does Action Whey™ retain the original structure, and thus the original biological activity, it also includes both a concentrate and whole form of whey in order to more closely resemble the original, natural raw whey consumed throughout history.

2) BioCysteine3™ contains alpha lactalbumin (about 16%) and beta lactoglobulin (about 49%) both of which are great sources of cysteine. It also provides other immuno & antioxidant components that support glutathione levels.

3) Action Whey™ is low glycemic with no sugar added. Elevated blood sugar and hyperinsulinemia have shown to significantly lower glutathione levels.

4) Action Whey™ is easily digestible, chemical free, and thus minimizes metabolic stress. Metabolic stress lowers glutathione levels.

5) Action Whey™ also contains beta-glucans and the immuno-boosting arabinogalactan fiber that further promotes a healthy metabolic environment and natural glutathione support.

6) Action Whey™ contains fast energizing nutrients (MCT) which do not raise blood sugar and therefore promotes the right metabolic energy that favors glutathione synthesis.

Summary:

The ability for dietary cysteine to boost glutathione status is clearly documented in medical literature. However, it must be consumed as found in specific peptide bonds. While whey protein by nature provides a rich and rare source for such bonded cysteine, it is largely destroyed in nearly all commercial applications.

Action Whey's™ BioCysteine3™ retains this critical structure, achieves the highest levels of naturally-occurring immune factors, and thus provides a greater impact on glutathione's anti-aging benefits.