The word protein means “first substance”. Our first protein food was found in our mother’s milk. Milk is the only food designed specifically to optimally sustain the life of a mammal. In fact, the root word for nutrition means to suckle. As a species, we would not have survived if not for the nutrition and protection mother’s milk offers.

Whey is one of the two protein groups found in milk. It is a liquid complex consisting of a wide range of proteins. The other protein group is casein, which curds are made from and then processed into cheese.

Whey is an original complete protein food and is considered number one for building and regenerating our bodies and maintaining a strong immune system. Our entire metabolic process relies on the intake of complete protein. We cycle proteins into amino acids constantly.

Hippocrates, the Greek physician of the 5th century B.C., the “father of medicine”, stated that the body has an inner adaptive or healing power. To strengthen this healing power, he prescribed serum (liquid whey) to his patients. It was native whey. It provided full biological activity and numerous health benefits. All commercial whey proteins available now are derived from extensively processed milk and whey and incomparable to the vitality in that 2500 year-old prescription.

It is appropriate to review some important definitions of terms used:

Native Protein: The naturally occurring conformation of a protein. Unaltered by heat, chemicals, enzyme action or processing. (Native is the same structure and proportion as in the original substance.)

Denatured: To cause the tertiary structure of (a protein) to unfold, as with heat, alkali, or acid, so that some of its original properties, especially its biological activity, are diminished or eliminated. (It means damaged.)

Undenatured: To undamage. (A term that is used without discretion in the industry and is misleading. It is not possible for a protein to be undenatured.)

Non-denatured: The same structure and proportion as in the original substance with full biological activity. (Never damaged.) Some companies are now using this word to describe their commercial by-products of cheese. Always ask, in writing, if a whey product is a by-product of cheese manufacture.

Presently, the various commercial methods of processing whey do not improve or even maintain the fragile immune modulating and regenerative components or the biological activity that was originally in the milk. They are all by-products from the manufacturing of cheese.

There are three commercial production methods, which comprise the majority of available whey proteins. They are isolates (the most popular), ion-exchange and hydrolyzed forms. They are all cross-flow filtered or microfiltered via elaborate patented procedures developed by large dairies. The whey used in these three methods undergoes major processing that involves high heat (163 degrees F) and drastic acidification of the whey to produce curds for manufacturing cheese. These steps denature (damage) the proteins. What is then required is extensive filtration to remove the many denatured proteins in order to produce the highest percentage of protein. Unfortunately the fragile vital protein components, which determine the biological activity of the protein, are not retained. The terms undenatured and cold-process are prevalent with these commercial products, but once a protein is denatured it is not possible to undenature it.
The key point in regard to the quality and effectiveness of whey is that the full range of biological activity and proportion of the fragile protein components be preserved in their original native form as nature provided. Only whey that is not a by-product of cheese manufacturing can achieve that goal. Additionally, the health of the milking cows and quality of the milk is the foundation of this type of product.

Non-denatured, native whey protein has the highest biological value of any protein. It is a complete protein, unlike soy, and provides all the essential amino acids in the correct balance. The five major active proteins of whey are lactoferrin, immunoglobulins, bovine serum albumin, alpha-lactalbumin and beta-lactoglobulin. There are many whey products available; therefore it is highly advisable to have in writing from the manufacturer, the treatment of the cows, the entire processing the milk undergoes and if cheese is part of the original production. Also request a written laboratory analysis that lists the percentage values for each individual protein. The SDS PAGE Gel method is the industry standard for determining the actual biological activity of a protein. An analysis that groups two or more proteins together with a percentage number is very questionable and worthless to a discriminating professional or consumer.

Covalent Bonded Cysteine (the non-denatured form), is the critical amino acid required for the all-important intracellular production of the antioxidant glutathione (GSH). Glutathione is our body’s master antioxidant and is responsible for numerous defense and repair functions and is an effective anti-aging substance. Glutathione is best utilized when we produce it internally. Cysteine is very scarce in our modern diet and therefore glutathione production is limited and deficiency is prevalent. If cysteine undergoes any heating or processing, as all commercial whey products do, it is denatured and converted to cystine. Covalent-bonded cysteine, active peptides, anabolic growth factors and enzymes are also present in non-denatured native whey, as there is no processing to denature them.

The public is now becoming more aware of the value of quality protein and is choosing whey protein for many good reasons. Not only does native whey have a wide range of immune-enhancing properties, it also has the ability to act as an antioxidant, antihypertensive, antitumor, antiviral and antibacterial. A number of clinical trials have successfully been performed using whey as an antimicrobial agent and in the treatment of cancer, HIV, hepatitis B & C, cardiovascular disease and osteoporosis. It has a major role in red blood cell production, support in chemotherapy treatment, safe binding and detoxification of heavy metals, wound healing, growth of new muscle, weight regulation and the support of numerous immune functions. It is used by populations that have Chronic Fatigue Syndrome (CFS), Fibromyalgia, Hepatitis, Cancer, HIV/AIDS, Respiratory disease, cognitive disorder from nutritional compromise and for any sports performance improvement.

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