

The Glutasyn Story

The first natural supplement to directly improve the activity of GSH (glutathione), the most fundamental cellular antioxidant, detoxifying agent and immune enhancer in the body.

By Dr. Gary Pusillo

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GlutaSyn® Overview

GlutaSyn® is a unique milk serum protein isolate that was developed through over eighteen years of rigorous, peer-reviewed research. Made under stringent quality controls with advanced low-impact ultra filtration technology, GlutaSyn® is an all-natural product that concentrates essential benefits found only in fresh mother’s milk. This milk serum isolate has been extensively tested in studies exploring its impact on immune system activity, muscle metabolism, longevity, and antioxidant support. GlutaSyn® has been evaluated in successful Phase I, II, and III clinical trials, and has earned five U.S. Patents, one Canadian Patent and one Australian Patent. Researchers continue to explore the exciting potential of this breakthrough in human clinical trials and immunological experiments with horses and laboratory animals.

This breakthrough technology was developed, by Immunotec Research Limited, in Montreal by a team of doctors led by Dr. Gustavo Bounous, M.D., FRCS. With an unprecedented foundation of clinical research on mammals, the technology was commercialized, by Apperon Inc., for animal use under the trademark GlutaSyn®.

GlutaSyn®, GSH and Cell Defense

Nearly a thousand medical research papers a year explore the antioxidant impact of GSH on health and disease. GSH is the most important factor protecting the interior of the cell from the constant damage of oxidative (free) radicals. In oxidative protection, it seems that all roads lead to this fundamental “reducing” agent in the body. Many scientists now use GSH levels as a general measure of oxidative stress. For instance, when GSH quenches a radical, it typically oxidizes to GSSG (glutathione disulfide). The measurement of the oxidative balance of a cell or a cellular process is usually based directly on the ratio of GSH to GSSG. Dr. Bounous was the first to discover a natural and sustainable way to directly improve GSH levels in the cells.

Immunity and GSH

For the mammalian and avian immune systems, life is one long battle against the endless attack of billions of viruses, bacteria, molds, and toxins of all descriptions. Lymphocyte cells are sometimes called the “brains” of the immune system. Their viability is critical to healthy immune function. GlutaSyn® is patented to deliver unique, naturally-targeted support for lymphocyte response in animals.

What is Glutathione, and Why is it so Important?

Glutathione (GSH) is a substance made up of three amino acids, glutamate, glycine, and most importantly, cysteine, which gives this molecule its biological activity. GSH is found in almost all the cells of animals and humans. GSH can not be transported into the cells and it must be manufactured within the cells. The only way to do this is by supplying the appropriate building blocks (precursors), which are active ingredients in GlutaSyn®.

GSH promotes the optional functioning of the immune system. Under attack from bacteria, viruses and pollutants, the immune system's response involves the multiplication of disease-fighting blood cells called lymphocytes (helper T-cells and B-cells) and their production of antibodies to stop the attacker. To do their job well, lymphocytes need a sufficient level of intracellular GSH.

GSH is an antioxidant and a free radical scavenger. It acts as an extremely powerful antioxidant, protecting cells from being damaged by neutralizing unstable forms of oxygen. GSH acts as the regular of other antioxidants. Without GSH other important antioxidants such as vitamin C and E cannot do their job.

GSH acts as a detoxifying agent. In the liver, GSH is an essential player in helping the body detoxify drugs, foreign chemicals, pollutants and carcinogens.

GSH helps in regulating protein and DNA biosynthesis and cell growth. Aging occurs when cells lose their ability to replicate and regenerate themselves. Increasing the level of GSH in the body has been shown to both decrease the frequency of DNA breaks and to aid in repair, in effect, retarding the aging process.

What is the Correlation Between GlutaSyn® and GSH?

GlutaSyn® is an all-natural product that concentrates essential benefits found only in fresh mother's milk. The benefits of GlutaSyn® are due to a unique property of raw milk serum; its ability to support the synthesis of cellular glutathione (GSH), the body's master antioxidant and detoxifier. It does this by supplying generous amounts of protein-bound cystine, glutamic acid, and the extremely rare GSH-precursor, gamma-glutamylcysteine.

GlutaSyn® enhances the body's capacity to defend itself at the cellular level. The immune systems of animals are constantly challenged by viruses, destructive free radicals, bacteria, oxidation, dangerous toxins, radiation etc. All these factors, without the defense of an

enhanced immune response, have direct implications on an animal's performance, longevity and of course, optimal health.

The nutritional modulation of cellular glutathione (GSH), via GlutaSyn®, does not impose or even manipulate any new biochemical process or mechanism. It simply delivers what nature demands, and facilitates what nature itself controls. GlutaSyn® is therefore fundamentally safe, but also very effective in supporting the immune response.

By supplementing feed with GlutaSyn®, you are maintaining high intracellular GSH levels and minimizing oxidative damage. This can also prevent disease or aid in recovery. GSH has tremendous antioxidative powers. Even when an animal comes down with an illness, the immune system will be primed to fight it.

How Does GlutaSyn® Compare to Other Antioxidants on the Market?

They all have their advantages and disadvantages. You should never stop using established supplements like vitamins C and E. These substances act synergistically. GSH is considered the cell's master antioxidant because it replenishes the action of many other antioxidants. For example, vitamin C and E cannot function adequately without GSH. When they pick up an oxyradical they must hand it off to the GSH system so that they can go back and get others. It is GSH - not the vitamin - that actually neutralizes it. GlutaSyn® will, quite simply, allow the other antioxidants to work to their potential.

Another important antioxidant is selenium. Scientific studies of selenium have shown clinical similarities to GSH. It is, in fact, an integral component of the important enzyme GSH peroxidase. For this reason, selenium may be considered a GSH-booster. Many animals need selenium to make GPX (GSH peroxidase), a vital antioxidant enzyme. Selenium and GSH have a mutual affinity, and can combine spontaneously to form GPX. Selenium should never be over-fed.

None of these important, but lesser, antioxidants occur naturally in the cell. They must come from foods or supplements. GSH, on the other hand, is a vital, natural component of the body's cells. It is manufactured within the cells from the precursors of GSH.

If it is your objective to boost performance by boosting your animal's defenses against oxidation and other uncontrollable factors, your best bet is to help the body satisfy its own GSH needs by supplying the necessary building blocks - the same building blocks that are active in GlutaSyn®.

The Benefits of Blended Products – GlutaSyn® Inside

GlutaSyn® works synergistically with many other nutrients. In fact, vitamins C and E and other antioxidants rely on GSH to do their jobs correctly. Products blended with GlutaSyn® Inside harness GlutaSyn's special support to address specific health and nutrition needs. One example of this nutritional synergy is Fortifier Plus.

Formulated primarily for neonatal health, animals of all ages can still benefit from Fortifier Plus' proprietary ingredients. Please see Fortifier Plus for more information.

Within Dr. Gary's Library, additional GlutaSyn® information can be found in:

The Right "Whey" for Cell Defense – A BioBurden Free Strategy Using GlutaSyn® (PDF)

And

Before the Bite – A Nutraceutical Approach to West Nile Virus (PDF)

Comprehensive GlutaSyn® information is also available at <http://www.glutasyn.com>