



Immunotec Overview

Immunocal™ is a U.S. patented natural food supplement which assists the body in maintaining optimal concentrations of glutathione (GSH) - a vital cell constituent for the immune system as well as a major cellular antioxidant and detoxifying agent.



Immunocal™ was developed by a team of scientists who, in 1978 began testing dietary proteins such as casein, soy, wheat, corn, beef, fish, egg albumin and algae. The research, conducted at a Montreal University by Dr. Gustavo Bounous and his colleague Dr. Patricia Kongshavn, showed that, by using isolate of milk serum as the protein source in the diet of experimental animals, immune function was enhanced. Subsequently Bounous et al. were able to trace this immune enhancing property or “bioactivity” of the protein mixture to its ability to provide a rich source of glutathione precursors (cystine) which enable the immune system to develop an optimum response without being hampered by the accumulation of oxiradicals. As the glutathione promoting effect (bioactivity) constitutes the principle feature of **Immunocal™**, Dr. S. Baruchel (a key collaborator) developed an in vitro assay (laboratory test) which constitutes an invaluable quality control method to guarantee consistency in the effectiveness of the product.

Mammalian cells have evolved numerous mechanisms to prevent or treat injurious events that can result from normal oxidative by-products of cellular metabolism (oxiradicals).

The “glutathione antioxidant system” is foremost among these internal protective systems because glutathione participates directly in the destruction of reactive oxygen compounds. Interestingly glutathione also acts to reconstitute vitamins C and E after they have been oxidized, and therefore plays a determinant role in their function.

Glutathione also plays a key role in the body’s defense against pollutants and ultraviolet radiation. It is thus not surprising that the highest concentration of glutathione is found in the liver which is the principal organ involved in the detoxification and elimination of toxic materials. Through the action of GSH transferase, glutathione actually binds with the undesirable substances and is thus eliminated with them in the bile or the urine, creating a need for GSH replacement. Mankind is also being exposed to increasing amounts of ultraviolet radiation due to the thinning of the ozone layer. Here again glutathione plays a key role in neutralizing the oxiradicals produced by radiation such as the hydroxylradical which is the most reactive radical known to chemistry.

It is therefore quite apparent that the demand for glutathione precursors (cystine) in the diet is increasing, given how modern society is impacting the environment. Fortunately, through advances in technology it is now possible to obtain and consistently preserve in their original form, the specific cow’s milk proteins which share with predominant human milk proteins the same extremely rare glutathione promoting properties.

Immunotec References

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