CortControl
Integrative Specialty Supplements

# THE SCIENCE BEHIND GLUTRASOL™ PRODUCTS

## How Do Glutrasol Products Work?

To improve overall health and improve integrated treatment efficacy, Glutrasol supports the immune system by employing three chemistries key to the Glutrasol family of science-based specialty supplements: transfer factor, beta glucans, and lactic acid-generating bacteria.

## Transfer Factor

Transfer factor is commonly derived from colostrum, which is a cow's first milk after delivering a calf. This milk contains information in the form of small proteins (polypeptides) that transfer immunity from cow to calf or from cow to humans.

Polypeptides transfer immunity from cow to calf or from cow to humans

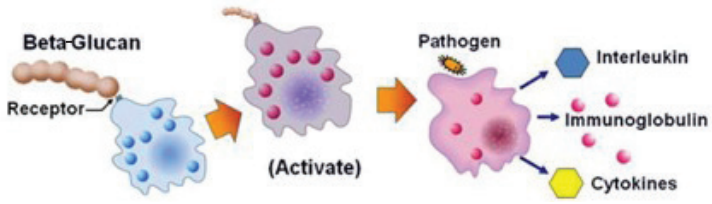
In the current Glutrasol products, the proteins are separated by molecular weight. There are also other sources of transfer factor such as eggs, sheep, goats, and lysed cells. As various sources are mixed, the scope of immunity typically increases. If people were to take transfer factor every day, their immune capability—as measured by killer white blood cells—could increase by as much as 250%.

## Beta-Glucan

Beta-glucan stimulates the two principal parts of the body's immune system: the innate and the acquired immune systems. In the innate immune system, beta-glucan binds with the macrophages, a kind of white blood cell that detects bacteria, viruses, and other pathogens to coordinate the body's defenses against them. When activated by beta-glucan, macrophages have a greater ability to identify and destroy foreign intruders. After devouring pathogens through a process called phagocytosis, the macrophages then communicate the intruder's presence to the body's other defenders. Research shows that macrophages fortified by beta-glucan can rally the body's defenses.

Beta-glucan stimulates the innate and the acquired immune systems

After this, the acquired immune system joins the fight. Using the information transmitted from the macrophages, the acquired immune system learns to manufacture other killer cells and blood factors designed to defend against a specific attack. These include B-cells, which produce antibodies. The antibodies, working with the innate immune system, destroy foreigners and bind them into clusters. Macrophages then overwhelm these. This is how the body rids itself of infection and disease.




Macrophage activation via cell surface receptor.

## Lactic Acid-Generating Bacteria

Many assume that glucose is the main energy source for living tissues, but there are indications that lactate, not glucose, is preferentially metabolized by neurons in the human brain. Lactic acid-generating bacteria also have important positive effects on digestive health. Foods such as cod liver oil and sauerkraut, for example, derive their benefit from lactic acid-generating bacteria. The liver, pancreas, and kidneys are less stressed with good digestion.

The immune system is supported because beneficial lactic acid-generating bacteria displace pathogens in the digestive tract. As a result, healthy mucus intestinal linings are restored.

The immune system is supported because beneficial lactic acid-generating bacteria displace pathogens in the digestive tract

## Over 35 Years of Successful Treatments

Glutrasol testing to date has been conducted almost exclusively with animals at our sister company, Ramaekers Nutrition. For more than 35 years, veterinarians have prescribed many of the same compounds in Glutrasol to treat a variety of diseases with considerable success. The range of animal testing includes hundreds of thousands of cattle, pigs, horses, and other livestock. And results have often been dramatic. Fertility in cattle, for example, has increased, in some cases, by more than 70%. And, in vaccine immuno-enhancement, Antibody Titers saw improvements of more than 360% at 21 days.

70% increase in cattle fertility

360% improvement in antibody titer for parvovirus

## Product Development Status

Glutrasol FE and IE were granted US patents for human applications in 2017. Glutrasol IE will be part of a human clinical study and FE will complete human beta testing as well as clinical studies. All are expected to be completed in 2018.

For the pharmaceutical company that purchases the exclusive licensing rights from CortControl, Glutrasol could mean both a strong foothold in the nitraceuticals industry and—with a potential market of tens of millions of users worldwide—an enormous revenue opportunity.

**CORTCONTROL PATENTS**

U.S. Patent Application No. 14/640,457; Our Ref: 128247-219292 (P003) for FERTILITY. U.S. Patent 9,463,218 B2

U.S. Patent Application No. 14/640,457; Our Ref: 128247-219292 (P003) for RESPONSE FOR IMMUNODEFICIENCY OR HIGH CORTISOL. U.S. Patent 9,610,347

**For More Information** Visit **cortcontrol.com** email us at **hello@cortcontrol.com** or call **1-831-476-5050**.

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