QORE Immune8

The Qore immune8 Organic Mushroom Complex is a combination of 8 of the most immune-potent varieties of medicinal mushrooms known in the world. Recognized for their nutritional content, medicinal mushrooms have a well-documented history of supporting immune system activity in humans. Each mushroom variety has a very specific role in this formula. Together, they complement and enhance one another and work synergistically to accomplish outstanding and incomparable immune support. Each mushroom variety has been extensively researched, validated, and is known to have very specific health benefits. This powerful complex is designed in harmony with the principles of ancient Tibetan and traditional Chinese medicine.

QORE immune8 is designed to:

- Support normal and healthy immune system response
- Activate and train the natural killer cells for a stronger immune response
- Maintain health during challenging seasonal changes and periods of stress

KEY INGREDIENTS: King trumpet (Pleurotus eryngii), Turkey Tail (Trametes versicolor), Cordyceps (Cordyceps militaris), Reishi (Ganoderma lucidum), Sun Mushroom (Agaricus blazer), Lion’s Mane (Hericium erinaceus), Antrodia (Antrodia camphorate), Maitake (Grifola frondosa)

Introduction to Medicinal Mushrooms

When most people think of mushrooms, they consider only the handful of varieties available in a grocery store used in common food applications. However, the use and relevance of mushrooms reaches far beyond the edible species. According to a recent publication, the number of identified mushroom species on earth is estimated at about 140,000, with only about 10% of the total species known and identified on the planet. Of those known, about 50% are considered to possess some degree of edibility and over 1,800 species are estimated to have some known medicinal benefit. While medicinal mushrooms are not recommended for eating because of their unpleasant taste, they do make up a significant portion of the total mushroom species. They are distinguished for their unique, complex, and potent nutritional content. They can deliver a wide variety
of health benefits, yet they are best known for their ability to activate immune-defense mechanisms.

Examining the life cycle of mushrooms, the logic of their immune effects becomes intuitive. Mushrooms are among the lowest level of vegetation in the ecosystem, thriving on decaying materials in an antagonistic environment. Because the mushroom must absorb the food through its cells to survive, it has to first deactivate any potentially harmful pathogens. Therefore, mushrooms become proficient at expelling undesirable chemicals and contaminants absorbed during ingestion. In order for a mushroom to continue to exist, it must have an aggressive, proactive, innate immune system.

Traditional Uses of Mushrooms

Mushrooms are considered one of the most ancient of medicines, with a history of use dating back many millennia. While mushrooms have always been consumed as food, in the Far East ancient healers were more concerned with its distinctive healing properties, above and beyond that of traditional food. The earliest book on medicinal materials in China, the Shen Nong’s Herbal Classic (Shen Nong Pen Ts’ao Jing) (100-200AD), recorded the medicinal effects of several mushrooms. Historically these mushrooms were prepared with hot water-soluble fractions, known as decoctions. Long before they were available commercially, many of the rare varieties were sought out and reserved only for use by emperors. Nowadays, almost all of the important medicinal mushrooms have been subjected to large-scale cultivation, thus removing the historical scarcity factor. In the past few decades the world-wide scientific community has taken note and research has exploded on mushrooms, isolating and exploring the value of its treasured components, particularly that of its biologically active polysaccharides.

The Modern Immune System

When a person’s immune system weakens due to stress from daily living or exposure to pollution and contaminants, opportunistic pathogens can invade, gain the upper hand, and cause sickness. While a single incident of illness carries insignificant consequence, the long-term effects of accumulated bouts of illness may pose a more serious problem. With today’s challenges it is best to be prepared.

Most of us today live in an artificially cleansed environment with hand sanitizers, harsh soaps, disinfectants, detergents, filtered air, processed foods, and frequent antibiotic treatments. This can create several significant implications on our immune system. Our immune systems are designed to constantly monitor and respond to foreign invaders and pathogens. Once discovered this pathogen data is stored in our immune data bank, allowing
our defense system to mount a fast immune response. But a meager data base in an under-trained immune system can make one incapable of dealing with many pathogens. A slow, uncoordinated immune response will not be able to cope with a sudden onslaught from new or clever pathogens. 18

More often than not, nature holds the answers to many of our challenges. Regular mushroom supplementation could hold the key to keeping our immune systems alert, active, and more prepared to defend. Mushrooms play a critical role at the bottom of the ecosystem. They grow most often in an extremely hostile environment, among dead and decaying matter, and are active in recycling and purifying organic matter. To protect themselves against the variety of harmful pathogens they encounter mushrooms must have an extremely powerful chemical immune and detoxification system. Their very survival depends on its ability to protect itself by deactivating these toxins. Their secret to a strong immune system is a special chemical, called a polysaccharide, which resides inside the mushroom’s cell wall through which food travels. This process is thought to be the source of its well-documented immune supporting power in humans. 16

Mushrooms Hold an Important Key to a Vibrant Immune System

Research in the 1980’s began to make the connection between medicinal mushrooms and the activation and stimulation of the immune system.16 Interestingly, the polysaccharide molecules in mushrooms are very similar to the ones found in harmful bacteria, and thus cause our immune systems to mount an immune response without their being an actual threat. Thus, mushrooms provide a constant challenge to the immune system by presenting many different molecules to the system in a non-hostile manner. 15, 18 This is of deep importance and growing significance since the immune defenses of the aging population are in a weakening state and in need of constant nourishing, stimulation, and strengthening. Mushrooms may literally hold the key to the strengthening immune defenses.

Immune system modulators work mainly by increasing the macrophage activity. Macrophages are a type of white blood cell that serve several important functions such as the removal of cell debris and the killing of pathogenic microorganisms.1,2 When the body is stimulated by pathologic stimuli or injury, macrophages release proinflammatory cytokines, chemokines and chemoattractants that allow it to literally eat and destroy harmful pathogens.3 Therefore, the activation of macrophages is a key event for proper immune system function. Macrophages are the body’s own version of the marine corps. 15

Researchers from Harvard University observed how beta-glucans, specific polysaccharide components of the mushroom cell-wall, have an immune-
enhancing effect. The beta-glucans found in medicinal mushrooms are typically far more complex than those found in plants. Mushroom beta-glucans are sometimes called “long-chain” because they are made up of spiraling, repeating patterns of molecular molecules. Most common to mushrooms are the beta 1-3 and beta 1-4, which are named to describe the molecular structure. The 1-3 beta-glucan means that it has links from the first to the third carbon atom, while the 1-4 has links going from the first to the fourth.

Beta-glucan molecules have a “lock and key” relationship with the surface receptors of important immune cells. The beta-glucan molecule latches on the surface of macrophage, and this linking-up process with the beta-glucan molecule stimulates macrophage activity. Continued research found other receptor sites on other immune cells, such as the natural killer cells, and neutrophils, which demonstrated that different shaped beta-glucan molecules produced different immune responses that dramatically improved immune responses to a number of different conditions and pathogens.

QORE Immune8 is Made with Organic Ingredients

The mushrooms in Qore immune8 are all organically grown and cultivated in a greenhouse environment under fully controlled conditions in the United States. Unlike many of their counterparts that are grown in Asia, the mushrooms in this complex are grown without the use of harsh herbicides or pesticides and are free of pollutants and contaminants, such as heavy metals.

Modern Research on Medicinal Mushrooms

Reishi (Ganoderma lucidum) has the oldest pedigree and is among the most researched mushrooms in the world. According to a study commissioned in the UK on medicinal mushrooms, “Several mushroom compounds have been shown to potentiate the host’s innate (non-specific) and acquired (specific) immune responses and activate many kinds of immune cells that are important for the maintenance of homeostasis, e.g. host cells (such as cytotoxic macrophages, monocytes, neutrophils, natural killer cells, dendritic cells) and chemical messengers (cytokines such as interleukins, interferon, colony stimulating factors) that trigger complement (a biochemical process that helps to clear pathogens) and acute phase responses. They can also be considered as multi-cytokine inducers able to induce gene expression of various immunomodulatory cytokines and cytokine receptors. Lymphocytes governing antibody production (β-cells) and cellmediated cytotoxicity (T-cells) are also stimulated.”

Researchers at Memorial Sloan Kettering have found convincing evidence for maitake’s immune-promoting benefits. They reported, “In laboratory
and human studies, maitake extract was able to stimulate various cells and factors in the immune system.” Its mechanisms of action are various but it is most commonly thought to exert its powerful effects by its ability to activate effector cells - macrophages, natural killer cells, and T cells, as well as interleukin-1 and superoxide anions. They also found studies that suggest possible hypoglycemic activity which may be due to its effects on insulin receptors by increasing insulin sensitivity and ameliorating insulin resistance of peripheral target tissues. The researchers also discovered in another study, beta glucan GFPBW1 present in maitake also showed antitumor effects thought partially due to activation of macrophages via the Dectin-1/Syk/NF-κB signaling pathway. 15

Coriolus versicolor has been used for centuries used in traditional Chinese medicine as a tonic, however recent studies referenced at the Memorial Sloan Kettering Cancer Center suggest that it has potent immunostimulant and perhaps even some anti-tumor properties. For instance, one clinical study demonstrated that when used in conjunction with chemotherapy, PSP may benefit patients with advanced non-small cell lung cancer. Other clinical studies using Coriolus extract alone or in combination with other botanicals also suggest positive immunomodulatory effects. Polysaccharide-K, a proprietary extract derived from Coriolus, was developed for cancer treatment in Japan. When used as an adjuvant, it appears to improve survival rates in patients with gastric, breast and colorectal cancers. A hot water extract of Coriolus, VPS, was found to enhance development of large intestinal tumors in mice. 19

Another recent in-vitro model, confirmed with several in-vivo experiments demonstrated that a specific immunomodulatory protein (LZ-8) found in Reishi (Ganoderma lucidum) can effectively promote the activation and maturation of immature Dendritic Cells, important antigen-presenting cells, which suggests that this specific protein molecule in Reishi may possess a beneficial effect in upregulating immune responses. 5

Wang et al.10 reported that after treatment of macrophage cultures with a polysaccharide from fresh fruiting bodies of G lucidum, the levels of IL-1β, TNF-α, and IL-6 were 5.1-, 9.8-, and 29-fold higher than in cultures of untreated cells. In addition, the release of INF-γ from T lymphocytes was also greatly enhanced in the presence of this polysaccharide. 9

Maitake mushroom extracts stimulated the natural immunity related to the activation of NK cells indirectly through IL-12 produced by macrophages and DCs in normal mice. 11 IFN-γ production by splenic NK cells increased significantly 3 days after administration. Additionally, Kodama et al.12 reported the activation of macrophages and DCs in normal mice as well. Based on this encouraging research, it has been suggested that administration of Maitake extracts to healthy individuals may serve to prevent infection by microorganisms. 9
The medicinal fungus water extract (FWE) is made from a variety of mushrooms in equal amounts, including Coriolus versicolor, Cordyceps sinensis, L edodes, A blazei, and G lucidum. Zhang et al. reported that FWE enhanced the phagocytosis of peritoneal macrophages and promoted NK activity in mice.

Pleurotus eryngii is an edible mushroom in which a recent study demonstrated the anti-allergy potential. This study discovered that this mushroom extract actually inhibited allergy markers, including release of hexosaminidase and histamine. PEE also suppressed the expression and production of interleukin-4 and reduced antigen-induced NFAT and NF-kB transcriptional activity in antigen-sensitized mast cells. Moreover, PEE decreased the levels of proinflammatory cytokines and COX-2 and iNOS expression in antigen-sensitized mast cells. Finally, PEE suppressed antigen-induced signal protein phosphorylation of Lyn, PLCγ2, PKC, Akt, and MAP kinases. Researchers concluded that these results suggest that P. eryngii extract may provide insight into the prevention and treatment of allergic and inflammatory diseases.

References


21. The Journal of Medicinal Food showed how a Turkey Tail extract inspired activity of macrophages, a white blood cell that destroys pathogens. According to the researchers, “The macrophage-stimulating effect of polysaccharides extracted from Coriolus versicolor (Turkey Tail mushroom) was investigated, and their effectiveness was compared with that of lipopolysaccharide (LPS). The purified polysaccharide (CV-S2-Fr.I) of C. versicolor obtained by Sepharose CL-6B gel chromatography stimulated macrophage lysosomal enzyme activity by 250% at a concentration of 100 microg/mL, which was higher than that of LPS at the same concentration.” J Med Food. 2006 Summer;9(2):175-81.