

Why GANODERMA?



Mushrooms are unique, stationary like a plant, yet built from chitin, the same indigestible fiber that forms the shell of a lobster. Understanding the properties of chitin is critical to understanding how to choose an effective, high-quality medicinal mushroom product.

Chitin is indigestible by humans. Yet chitin, which makes up the cell walls of mushrooms and mushroom mycelium, contains the potent immune stimulating compounds common to all medicinal mushrooms, the polysaccharides. Practitioners of Traditional East Asian Medicine and modern clinical researchers both use the same preparation technique to overcome this barrier, hot water.

Only a heated liquid solution can break down the indigestible chitin and release the active compounds into a concentrated, bio-available form. When used in Traditional Chinese Medicine for chronic conditions or immune health medicinal mushrooms are always prepared with heat and water, as a tea or a decoction. Medicinal mushrooms are never used in the un-extracted form (as mycelium bio-mass powder or dried mushroom powder), and rarely prepared as a tincture (soaked in alcohol and water in the absence of heat).

Scientific research backs this traditional preparation method. Every published, independent study on the use of medicinal mushrooms for immune health has been conducted with a hot water or hot water/alcohol extract. Every form of extraction, including precipitation with alcohol, requires a heated liquid solution to first release the polysaccharides, the primary active compounds, from the chitinous cell walls of the mushroom and mushroom mycelium.

According to the American Herbal Pharmacopoeia, mycelium bio-mass products are inferior because of a "lack of bio-availability". This publication also states that concentrates derived through hot water extraction contain levels of active compounds

that are "magnitudes higher than what is available in crude mycelium biomass preparations."

We take these lessons seriously. Our dehydrated hot water extracts are strictly formulated to deliver all of the important constituents unique to each mushroom. Every batch is analyzed for purity, contains guaranteed levels of the active compounds, and is offered as a pure extract, containing no mycelium bio-mass or ground mushrooms as filler.

Research has demonstrated that *Ganoderma Lucidum* has several different active constituents. One group of active constituents is the polysaccharides. The various types of polysaccharides found in *Ganoderma Lucidum* have demonstrated immune-enhancing properties.

This includes enhancement of several important interleukins. Another major class of compounds is the triterpenes. These compounds have been reported to have adaptogenic, anti-hypertensive, and anti-allergy effects.

Cardiovascular Benefits

Ganoderma Lucidum has been shown in some studies to inhibit platelet aggregation and reduce blood pressure. In studies of people with hypertension, researchers found blood pressure was significantly reduced over two-weeks' time with **reishi** supplementation.

Immune Benefits

Ganoderma Lucidum is commonly prescribed by practitioners for long-term immune system support. In studies involving patients with advanced tumors, the patients were given *Ganoderma Lucidum* for thirty days. Researchers found a marked immune-modulating effect as demonstrated by an increase in T lymphocytes and decreased CD8 counts. Patients also reported reduced side effects due to chemotherapy or radiation as well as postoperation recovery.

Blood Sugar Balance

Studies have shown *Ganoderma Lucidum* to have a blood sugar lowering effect. Much of this activity appears to be due to polysaccharides known as Ganoderans A, B, and C.

It appears there are three main mechanisms behind this hypoglycemic effect. This includes *Ganoderma Lucidum*'s ability to elevate plasma insulin levels, to enhance peripheral tissue utilization of glucose, and to enhance liver metabolism of glucose.

Anti-inflammatory Effects

Studies have shown that hot-water extracts of *Ganoderma Lucidum* have anti-

inflammatory effects. One study found that 50 milligrams of reishi powder had comparable effects to 5 milligrams of hydrocortisone.

Liver Protector

Ganoderma Lucidum is commonly used for its hepatoprotective (liver protective) action. One study of patients with hepatitis B and elevated liver enzymes (SGOT/SGPT) and bilirubin were given reishi for three months. Significant reduction in SGOT and SGPT were noticed within one month. After three months all values were within normal range.

Oxygenation

One of the unique uses of Ganoderma Lucidum is for altitude sickness. Reishi appears to reduce altitude sickness by oxygenating the blood. This benefit was studied in Asian mountain climbers that ascended mountains as high as 17,000 feet with minimal reaction.