



## Understanding Herbs

### Reishi – *Ganoderma lucidum*



*Please Note: As with any form of herbal medicine, the below information is not meant to replace medical advice or prescriptions from your Medical Doctor, it is meant for educational and interest purposes only. All information below is based off of Materia Medica texts and comes from published and historical sources.*

#### **General Info:**

- Reishi is traditionally a part of the Chinese and Japanese materia medica.
- Reishi, meaning divine or spiritual mushroom, is from the Japanese tradition, where it is also known as the phantom mushroom, or varnished conk.
- Reishi is a hard and bitter fungus that has been used for more than two thousand years, making it one of the oldest known medicinal mushrooms.
- The wild reishi is relatively rare, with almost all commercial products grown in sterilized environments.
- It grows well on elm, alder, oak and some strains are found on conifers. It is found rarely in the Pacific Northwest.

- In China, Japan, and other Asian countries, reishi has been used for at least four millennia for medicinal purposes.
- Kuan Yin, the goddess of mercy and healing, is sometimes depicted carrying a reishi mushroom.
- 16<sup>th</sup> century Ming dynasty texts say it “mends the heart”.
- A member of the Chinese materia medica, the Chinese name ling zhi is derived from the pictographs for "shaman praying for rain" (ling) and "free fungus" or "substance used to concoct an elixir of immortality" zhi.
- Reishi mushrooms (and all the medicinal mushrooms for that matter) are best taken in either a purified extract form a powdered extract, brewed as a strong decoction, or cooked in soups.

**Other Names:** ling zhi mushroom

**Family:** Ganodermataceae (Shelf Fungi)

**Parts Used:** Whole Fruiting body, mycelium

**Actions:**

Warming (Chinese medicine)	Astringent	Nourishing
Detoxifying	Tonifying	Bronchial Tonic
Adaptogenic	Analgesic	Stimulating to Endurance
Cardio tonic	Hepatoprotective	Anti-tumor
Anti-viral	Anti-bacterial	Antioxidant
Free Radical Scavenging	Anti-fibrotic	Immuno-modulating
Reduces autoimmune excess	Hypotensive	Antitussive
Expectorant	Antihistamine	General Tonic
Nervous System Sedative	Analgesic	Hypoglycemic
Immuno-stimulant	Anti-inflammatory	Anti-allergic
Hypo-lipidemic	Hepatoprotective	Enhancement of vital energy
Neuro-protective	Radiation protective	Kidney protective

**Chemical Constituents:**

**Fruiting Body:**

- Carbohydrates
- Amino Acids (Adenosine)
- Steroids (Ergosterols)
- Protease
- Lysozymes
- Lipids
- Triterpenes
- Alkaloids

- Vitamins B2 and C
- Minerals (Zinc, Manganese, Iron, Copper, Germanium)
- May contain up to 40.6 percent beta-glucans
- Polysaccharides
- Phytosterols
- Terpenes
- Proteins (adenosine, a component in the ATP cycle)

**Mycelium:**

- Sterols
- Alkaloids
- Lactones
- Ergone
- Polysaccharides (more than one hundred distinct types)
- Triterpenoids (more than 119 different types such as ganoderic and ganoderenic acids, ganolucidic acid, lucidenic acids, and lucidone) – As the mycelium matures into fruiting bodies, the triterpene content increases.

**Spores:**

- Choline
- Betaine
- Palmitic and Stearic acid
- Tetracosanoic acid
- Behenic acid
- Nonadecanoic acid
- Ergosterol
- Beta sitosterol
- Pyrophosphatidic acid
- Hentriacontane
- Tetracosane

**Research:**

- Potent inhibition of HIV-1 at low level IC50 of 1.2 micromoles was found from extracts of fresh fruiting bodies at pH two to five at seventy degrees Celsius (158 degrees Fahrenheit) (Want H. and T. B. Ng 2006)
- Water extracts show activity against *Bacillus*, *Mocrococcus*, *Streptococcus*, and *Staphylococcus* species (Yoonm S. Y. et al. 1994).
- Reishi extracts help infertile men with chronic genital inflammation secondary to infection by PHV overcome this condition. The extract significantly reduces inflammation and improves sperm parameters. Reishi extracts inhibit PHV activity (Lai et al. 2010).

- Yong-Tae Jeong et al. (2008) found reishi reduced formation of tumours by 40% and increased natural killer cell activity of splenocytes by 52%.
- Reishi helps assist the p53 checkpoint, where genes inspect and then act to destroy abnormal cells. This gene is often damaged in cancer cells, allowing abnormal cells to move on to the next phase and division.
- A controlled study found reishi extract reduced blood viscosity in patients with high blood pressure and hyperlipidemia.
- A study of 103 patients suffering from coronary heart disease and angina for at least one year were given one gram of ganoderma three times per day for four months at seven hospitals. LDL declined by 68%, arrhythmia improved 60%, angina pectoris by 84%.
- Reishi powdered extract has been seen to suppress cell adhesion and cell migration of highly invasive breast and prostate cancer cells, suggesting its potency to reduce tumor invasiveness.
- It requires hot water to release some of the active ingredients, used as a tea, or combined with a good stock containing soup bones and tonic herbs and frozen for future use.
- It is important to note that a recent study was done on eleven commercial reishi products sold in the market place. Of all eleven products, none of them had over 2 percent triterpenes (some had zero detectable) and most had under 10% polysaccharides. This is also true of many other adaptogens sold commercially and why it is so important to know where and from whom you are buying your herbal nutritional products.

## What are its uses?

### **Mind and Mental Health:**

- Insomnia
- Anxiety
- Nervousness associated with adrenal deficient conditions
- Appears to protect the brain from the harmful effects of beta amyloid associated with Alzheimer's disease.
- Promotes cognitive function
- Stress (Reishi is the perfect remedy for the typical north American suffering from constant stress)
- Dizziness
- Paranoia

### **Nervous System:**

- Nerve Pain
- Central nervous system relaxation
- Reduces the effect of caffeine on the body
- Adrenal cortex strengthener

- Tonic to the parasympathetic side of the nervous system (rest, relax, eat, digest, sleep, dream)
- Nervous exhaustion
- Adrenal burnout
- Chronic fatigue syndrome

**Respiratory System:**

- Lung conditions like asthma and bronchitis
- Bronchial protection
- Allergy related respiratory conditions
- Coughs

**Digestive System:**

- Used traditionally for various liver ailments including chronic hepatitis
- Hepatitis B
- Gastric ulcers
- Increases liver function
- Protects the liver
- Significantly lowers blood lipids and fatty deposits in the liver
- Necrosis

**Urinary/Renal System:**

- Nephritis of the kidneys
- Chronic urinary tract infections
- Nephritis

**Endocrine System (Hormones):**

- Balancing of endocrine and hormone levels.

**Cardiovascular System:**

- Hypertension
- High cholesterol
- Coronary heart disease
- Edema
- Heart palpitations
- Angina pectoris
- Arrhythmia relief
- Platelet aggregation
- Reduces clot formation
- Strengthens the coronary arteries
- Improves blood flow to the heart

**Circulatory System:**

- Helps lower elevated blood sugar levels (possible anti-diabetic (type II) qualities according to Dr. Robin Marles and Dr. Farnsworth in a 1995 *Phytomedicine* publication).
- Regulates blood clotting
- Helps reduce "blood fat"

**Immune/Lymphatic System:**

- General immune support/increased immune system activation
- Enhanced bone marrow nucleated cell proliferation
- Increases white blood cells and hemoglobin
- Enhanced natural killer cell activity
- Allergies
- Helps oxygenate cells
- Side effects of radiation and chemotherapy

**Reproductive System:**

- HPV
- Issues of infertility in men.
- Inflammation in the male genitalia.
- Prostate cancer
- Breast cancer
- Yeast infections
- Uterine fibroids

**Musculoskeletal System:**

- Muscle relaxant potential
- Muscle pains and spasms
- Arthritis (Rheumatoid)

**Specific Diseases/States/Infections/Viruses/Bacteria:**

- Radiation protection
- Influenza virus type A
- Herpes simplex virus type 1
- Myasthenia gravis (In Japan and China, the mushroom is approved for the treatment of this serious autoimmune disease).
- Both clinical and empirical evidence suggests that reishi may be beneficial in patients with viral conditions such as Epstein-Barr Virus or HIV.
- Post-herpetic neuralgia
- Herpes zoster pain (shingles)
- Chronic degenerative conditions
- Autoimmune diseases
- Sjogren's syndrome

- Cancer
- Candida
- Altitude sickness

## Safety Concerns/Contraindications

- Considered as safe
- No known adverse effects
- Marketed as a food with no claims made.
- Water extract diminished the stimulant effect of caffeine due to its central depressant activity (in mice).
- Reishi extract is considered extremely well tolerated and has no known toxicity when taken within the recommended dosage range.
- Water extract reduced the sleeping time induced by the barbiturate hexobarbital possibly due to increasing its metabolism in the liver (in mice).
- Restricted use during pregnancy/lactation (conflicting commentary, some sources say ok)
- Pause use every three months
- In some cases, long term use (3 to 6 months +) has caused mouth dryness, chronic itch, upset stomach, nosebleed (in animal studies) - in statement no dosage guidelines offered for these side effects.
- Allergic reaction in some individuals
- Not to be taken with blood thinning drugs (conflicting commentary, some sources say ok)

### References:

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