Introduction

The *Ganoderma lucidum* mushroom cap—both the fruiting body and its spores—has been the most revered herb in all of Chinese pharmacology for over 3,000 years. Yet very few westerners have heard of it, used it, or understand why it holds that esteemed top position for reversing degenerative illness.

Referred for centuries in herbal medical texts as “the longevity herb,” the “herb of immortality” and the “herb of spiritual potential,” the fruiting body of *Ganoderma lucidum* is known most commonly as Lingzhi (*reishi* in Japan, and *yeongii* in Korea).
Unknown in The West

The use of Lingzhi’s mushroom cap (also known as the fruiting body) for improving healths is largely unknown in the western world, even among natural health practitioners and lay people who’ve used herbal supplements for decades. This lack of usage stems mainly from its historical rarity and high cost. Up until even the 1990s, mycologists had not understood how to cultivate Lingzhi mushroom cap commercially, so wild foraging made for steep pricing and irregular distribution.

But that is changing. Recent technological advancements in cultivation have lowered the cost (60-75¢ per 500mg capsule for the highest efficacy formulas is still the norm) and increased the potency.

Another reason for Lingzhi’s recent popularity is the enormous volume of scientific interest: since 1995, over 1,100 published studies have been done on Lingzhi fruiting body and spores, making it the single most researched fungi for the past two decades (update: these studies haven’t gone unnoticed—Proctor & Gamble recently purchased the largest US-based Lingzhi mycelium company).

That said, popularity is caused less from the sheer number of studies and more what the studies, and subsequent actual users’ personal testimonials, are pointing to—that Lingzhi is capable of removing a large number of common health concerns that shorten lifespan.

There are some compilation website links at the end of this article, showing the details of many of the Lingzhi research papers. But here’s a summary of the effect that Lingzhi fruiting body and its spores are showing:

- Anti-inflammatory (dramatically)
- Anti-allergy (dramatically) and antihistamine
- Antiviral (including HIV & herpes I & II)
- Antifungal
- Antibacterial
- Chronic fatigue (significant improvements)
- Heart disease and atherosclerosis
- Increase blood flow, lowers blood pressure
- Asthma; enhances oxygen absorption
- Increased sexual function
- Improved cholesterol ratios
- Immuno–modulator
- Adrenal adaptogen
- Thyroid stimulating
- Improved mood
- Improved mental focus
- Increased acetylcholine transmission
- Activate Natural Killer Cells
- Loss of insomnia (dramatically)
- Relief for cough and asthma
- Anti-oxidative
- Insulin resistance
- Anti-aging effects
- Liver protection effects

For westerners trained in scientific method and principles of reason, this kind of wide swath of results—from eating a single plant—tends to not be a cause of celebration, but skepticism. And this suspicion is...
often increased after reading a few hundred of the research papers and seeing that there’s no consensus to what is causing these cellular improvements to occur.

Chemists have now isolated some 190 unique bioactive molecules in Lingzhi fruiting body and its spores, including 120 terpenes (60 of them triterpenes), 70 ganoderic and ganodermic acids, polysaccharides (β-1,3-glucans and peptidoglycan, both known to interact with human immunity), sterols (plant steroids) including lanosterol, which is a metabolite of squalene (used in cancer therapies), at least five nucleotide bases (thymine, uridine, inosine, guanosine, and adenosine) which are critical to DNA and RNA health, a highly specific alpha-glucosidase inhibitor known as SKG-3 (used for diabetes), and high amounts of two important elements: selenium (thyroid function) and germanium (immunomodulation).

Separately, the biological mechanisms of these compounds only partially explain the vast and wide results, such as improvements in kidney function, liver function, skin issues, long-time insomnia, better heart function, and all of the list above. The currently known pharmacological role of those ingredients fall short. The answer may be better explained through a less mechanistic perspective.

The Essence of Lingzhi’s Effect

For individuals who’ve used efficacious daily doses of Lingzhi fruiting body for years, have kept up with the research pile in the last 10 years, and have read much that has been written on Lingzhi going as far back as the Han Dynasty’s “Materia Medica” or Ben Cao Gang Mu (the earliest herbal pharmacopoeia text known, written around 1590 AD, and still regularly updated), as well as long-time practitioners of TCM (traditional Chinese medicine), these scientific findings confirm what traditional medical texts and personal experience has described for hundreds of years:

Regarding the *Ganoderma lucidum* fruiting body and its spores, no other plant is better at finding, decomposing and flushing out subpar cellular matter throughout the body, which then allows the surrounding organ and blood system to function at a higher level.

What follows are three less conventional assessments to help explain this.

1. Terpenes—Nature’s Internal Solvent

Out of all of the functional compounds found in the cap/fruiting body of Lingzhi, the largest group is terpenes, of which triterpenes are a derivative. You know that aroma from pine trees? From clove? Or anise, oregano, menthol, cinnamon, and citrus? This mainly comes from terpenes (more commonly referred to as *essential oils*). Terpenes are considered the strongest anti-inflammatory and anti-tumor compounds found in nature. Numerous triterpenoids have been shown to possess rapid acetylcholine action, our brain’s main neurotransmitter. Oral administration of Lingzhi show triterpenes appearing in blood plasma in high quantities in under 20 minutes from ingestion.
Aside from this speed and breadth of effect, the more fascinating property of all terpenes is their ability to dissolve, dissipate, and decompose cellular matter. One of the first terpenes ever extracted (12th century, by Arnaud de Villanosa) from nature was turpentine—yes, the paint thinner, but also the oil used even today by MDs for inflammation and joint pain.

Lingzhi is loaded with these terpenes. It makes sense that one of its innate abilities is to do a similar breaking-down and dissipating action in the body.

2. Doctrine of Signatures
One of the tenets taught in all western and eastern herbalogy, the Doctrine of Signatures, says that how a plant grows (above/below/on the ground), where a plant grows (south/north/tropical/mountains/wet/dry), when it grows (night/day/spring/fall), on what it grows (sandy/wet/shadows/bark/loamy soil), how it is shaped (scallions vs bulb onion), and its genus and color and taste can sometimes give clues as to where and how it will tend to affect a human organism.

Lingzhi mushroom grows only on decaying matter—mainly tree stumps or those lying on the forest floor; in fact, it thrives on cellular matter that is dead or no longer functioning at its peak. Perhaps it makes sense, from a wholistic viewpoint, that one of abilities of Lingzhi cap is to do a similar decomposition action in human bodies.

3. The Adaptogen Concept
Adaptogens are substances that work by adjusting altered body conditions back to normal, resulting in stabilization of cellular and psychological homeostasis.

The traditional herbal texts, as well as these recent scientific studies, report that Lingzhi fruiting body works both for insomnia and increasing mental clarity—two seemingly opposing problems. It’s also been found to work for both high and low blood pressure symptoms; both over-active and under-active thyroids; both overactive immunity (Lupus, Fibromyalgia and other autoimmune diseases), and weak immunity (colds, flu, and viruses).

To a western approach, these health issues are seen as polar opposites, and medically treated as such. To any natural healing model, such as acupuncture, these are seen more as conditions of deficiency or excess. This is where the adaptogenic concept applied to certain herbs and plants works well, because their main end effect is homeostasis and balance.

Lingzhi fits the classic definition of an adaptogen. It has double-direction activity, meaning that it, as an example, improves functioning of the immune and organ systems, whether they are deficient or excessive. It doesn’t stimulate the liver, the kidney, the overall system. Rather, it regulates them. It doesn’t stimulate or suppress the immune system—it’s called an immuno-modulator.

Lingzhi’s wide ability to repair the function of one person’s liver, while increasing the function of another’s lungs, or kidneys, or skin, or mental function, seems less odd once we view it from the adaptogen angle. Lingzhi doesn’t care where subpar cellular tissue is located, and terpenes are known to cross even the blood-brain barrier.
Lingzhi Fruiting Body. Not Mycelium.

There is significant concern within the mycelium community regarding nutritional supplements that state they contain Lingzhi without identifying which part of the Lingzhi plant they are using.

Currently, no US-based Lingzhi supplement company is manufacturing and using Lingzhi fruiting body in their formulas. They are instead growing and using Lingzhi roots, known as mycelium.

Every basidiomycete fungi (like Lingzhi) has three main parts:
1. **mycelium** (the white filament root structure)
2. **fruiting body** or **cap**
3. **spore**

All of the 190 active compounds found in Lingzhi are found in the top cap and spores. All of the major studies over the past decade were done on the top cap and spores. Not the mycelium.

The reason the studies don’t use mycelium is because these white filament root structures contain almost none of the 190 compounds, and of the ones it does contain (such as beta glucans), it has only a fraction compared to its full mature cap.

**Vat-grown lingzhi mycelium.**
Contains very few compounds
Harvest time is 9-10 days

**Fully mature Lingzhi fruiting body.**
Contains all 190 compounds.
Harvest time is 6-7 months.
Why do all American-based lingzhi formulas use mycelium?

1. **Lack of technology.** US-based manufacturers do not have the experience, expertise, farms, or mycologists who know how to effectively farm full-grown Lingzhi mushrooms. Instead, growing mycelium only takes vats and laboratories.

2. **Quicker time.** Vat-grown mycelium takes 9-11 days. Full grown Lingzhi mushrooms take 6-7 months.

3. **Inexpensive.** With shorter growing time, and no need for farms, Lingzhi mycelium can be marketed at 10-20% of the cost of Lingzhi formulated from fruiting bodies.

**Key Active Ingredients are found only in the Fruiting Body**

In a series of comparative tests done in 2012-2014, 100 products were tested for active ingredients. The results are shown here.

In each case, the formulas made from mycelium have three to twenty times less active ingredients as the formulas made from Lingzhi fruiting body. Since the mycelium is grown in liquid vats of cereal grains, starch is utilized as an indicator of adulteration.

Lingzhi mycelium is not synonymous with Lingzhi mushroom.
Tonic for The 21st Century

The modern world is about to enter a fascinating cellular and medical study that has never been tried on a global scale. Over the next decade, we will see for the first time in history a test base of tens of thousands of people who are eating highly potentized Lingzhi fruiting body formulas on a daily basis.

If the Lingzhi research results are true, and there were sound reasons for why traditional medicine put Lingzhi as the top plant for longevity and reversing illness, then we'll see, “regarding Lingzhi fruiting body, no other plant on earth is better at finding, decomposing and flushing out subpar cellular matter throughout the body, allowing the surrounding organ and blood system to function at a higher level.”

Join The Longevity Movement

On your next exploration online, take a look at the vast research. Find a good source of Lingzhi and join the longevity movement.

Last things to note:

- Lingzhi benefits increase the longer you use them.
- There are no contraindications, no negative side effects, and no age restrictions.
- Verify that your formula is using the cap of Lingzhi, not mycelium of Lingzhi.
- To access all compounds, find formulas whose manufacturers utilized multiple extraction methods: hot water, alcohol, and enzyme breakdown extrication.

Compilation Sites of Lingzhi Studies

This site has over 900 research papers on Ganoderma lucidum fruiting body:

www.lingzhiscientificstudies.com