

Can This Mushroom Help Build New Brain Cells?

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✓ Fact Checked

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STORY AT-A-GLANCE

- › The Lion's mane mushroom (*Hericium erinaceus*) has a long history in traditional medicine and research shows that an extract of bioactive compounds promotes neuron projections and connections to other neurons
- › The data also showed supplementation in an animal model enhanced recognition memory in mice, which retained similar influence even when the concentration was reduced by a factor of 50
- › Lion's mane mushrooms are associated with other health benefits, including regulating blood pressure and blood sugar, treating depression and promoting recovery after brain injury
- › Mushrooms have varying levels of antioxidants, and they have antioxidants that other fungi do not, such as ergothioneine and glutathione, which together help promote longevity and contribute to a healthy soil environment
- › I highly recommend including mushrooms in your nutritional plan, but caution that they should be organically grown as they easily absorb air and soil contaminants. Growing your own is an excellent option and a far safer alternative than foraging for wild mushrooms

Lion's mane mushrooms (*Hericium erinaceus*) have a long history in traditional medicine. A 2023 study¹ from the University of Queensland found an extract from the mushroom demonstrates the ability to promote neuron projections and connect those to other neurons.²

Lion's mane mushrooms are named for their unique white and shaggy appearance that resembles a lion's mane. They are also known by several other names, including bearded tooth, monkey's head, bearded hedgehog, satyr's beard and pom pom mushroom.³ The mushroom traditionally grows on hardwood trees and has played a role in traditional Chinese medicine (TCM) and Asian culture for centuries.

According to TCM practitioners, lion's mane supports the liver, spleen, heart, kidney and lung function.⁴ Buddhist monks traditionally used lion's mane mushroom tea to enhance brain function and heighten focus. The Chinese began cultivating lion's mane mushrooms in 1988 to meet demand. Today it's becoming a popular functional food in Western cultures.

Lion's mane mushrooms tend to grow in a single clump of dangling spines.⁵ In the wild, the mushrooms appear in late summer and early fall on dead and dying hardwood trees. The young mushrooms are pure white and tend to turn yellow and brown as they age.

Lion's Mane Mushrooms Dramatically Improve Brain Cell Growth

In recent years, fungi have attracted scientific exploration for the potential to improve cognitive function. Lion's mane mushrooms have had a long reputation for mental health benefits, prompting a research team from the University of Queensland to delve deeper into how extracts from the mushroom may improve nerve growth and enhance memory.⁶

The researchers acknowledged the mushroom's ability to enhance peripheral nerve regeneration by targeting nerve growth factors. The hope was to identify bioactive compounds that could help regulate the growth of neurons.⁷ In the lab, the researchers purified biologically active compounds and tested them against cultured brain cells in a Petri dish. The cells were then evaluated under a super-resolution microscope.

According to study scientist Frédéric Meunier, Ph.D., "we found the mushroom extract and its active components largely increase the size of growth cones, which are particularly important for brain cells to sense their environment and establish new connections with other neurons in the brain."⁸

The researchers then used the compounds in an animal model, testing them against behavioral changes in mice. The results suggested that supplementing with the extract could enhance recognition memory. According to the data, even when the scientists reduced the concentration by a factor of 50, the extract retained influence over recognition memory.⁹

Researchers acknowledged that at this point, the findings are based on an animal model. However, they suggest that the isolated compound hericenone is a “potent memory enhancer.”¹⁰

Extracts from lion's mane mushrooms have been used in traditional medicine for centuries to address cognitive issues. There is hope that the memory-boosting effects and neurotrophic properties of the lion's mane mushroom may offer hope for those experiencing cognitive decline or Alzheimer's disease.

More Health Benefits From Lion's Mane Mushrooms

While lion's mane mushrooms have a long history in TCM, using mushrooms dates to 450 B.C.¹¹ when Hippocrates wrote that mushrooms have potential anti-inflammatory properties. More recent research has discovered compounds in lion's mane mushrooms help regulate blood sugar, reduce high blood pressure,¹² treat depression¹³ and promote recovery after brain injuries.¹⁴

The structure and function of the brain change during aging, but this normally does not lead to mild cognitive impairment. Several strategies help protect cognitive function and one of those may be eating mushrooms.

Compounds in lion's mane mushrooms have also demonstrated neuroprotective effects in animal studies in which it appears they help prevent Alzheimer's disease. Extracts from lion's mane mushrooms have reduced symptoms of memory loss in mice¹⁵ and prevented neuronal damage caused by amyloid beta plaques known to accumulate in the brain with Alzheimer's disease.¹⁶

A 2020 study¹⁷ in people with mild Alzheimer's disease found that three 350 mg capsules of lion's mane mushrooms over 49 weeks improved cognitive test scores. Other research has also indicated that a higher intake of all mushrooms improves cognitive performance.

One epidemiological study¹⁸ of 13,230 participants 65 years and older found those who ate mushrooms at up to three times a week or more had “a lower risk of incident dementia, even after adjustment for possible confounding factors.”

Another study¹⁹ from Singapore found those who ate the most mushrooms had a 43% lower risk of developing mild cognitive impairment independent of confounding factors that included alcohol consumption, cigarette smoking and high blood pressure. Earlier research²⁰ with Norwegian participants aged 70 to 74 years showed a higher intake of fruits, vegetables, grain products and mushrooms improved cognitive performance.

Ergothioneine and Glutathione Promote Longevity

Mushrooms have high nutrient content and provide essential minerals such as manganese, copper, zinc, selenium, magnesium and iron.²¹ They are also high in potassium and sulfur, as well as many of the B vitamins.²² Different mushroom varieties have varying levels of antioxidants and mushrooms – including lion's mane²³ – have antioxidants that other fungi plants do not, such as **ergothioneine** and glutathione, also called “the master antioxidant.”

In a press release following the publication of a paper in Food Chemistry, Robert Beelman, professor emeritus of food science and director of the Penn State Center for Plant and Mushroom Products for Health, said:²⁴

“What we found is that, without a doubt, mushrooms are the highest dietary source of these two antioxidants [ergothioneine and glutathione] taken together, and that some types are really packed with both of them ...

There's a theory – the free radical theory of aging – that's been around for a long time that says when we oxidize our food to produce energy there's a

number of free radicals that are produced that are side products of that action and many of these are quite toxic.

The body has mechanisms to control most of them, including ergothioneine and glutathione, but eventually enough accrue to cause damage, which has been associated with many of the diseases of aging, like cancer, coronary heart disease and Alzheimer's."

Beelman has focused his studies on the relationship with neurodegenerative conditions and points out that in countries like France and Italy, where people consume more ergothioneine in their diet, there is a lower incidence of neurodegenerative diseases. By comparison, in countries where there is a low amount in the diet, there is a higher probability of conditions like Alzheimer's and Parkinson's disease.²⁵

"Now, whether that's just a correlation or causative, we don't know. But, it's something to look into, especially because the difference between the countries with low rates of neurodegenerative diseases is about 3 milligrams per day, which is about five button mushrooms each day."

In addition to lowering your risk of neurodegenerative diseases that impact longevity, mushrooms may also help protect you from cancer. A literature review and meta-analysis²⁶ from Pennsylvania State University assessed the association between the risk of any type of cancer and mushroom consumption. The analysis included data from 17 studies and more than 19,500 cancer patients²⁷ showing that those who ate the most mushrooms had the lowest risk of any type of cancer.

They also found a specific link between high mushroom intake and a low risk of breast cancer. They reported in a press release²⁸ that those "who ate 18 grams of mushrooms, or about one-eighth to one-fourth cup, daily had a 45% reduced risk of cancer."

Do Fungi Connect Healthy Soil and Healthy People?

In a time when globalists want people to eat manufactured and lab-produced consumables, it's crucial to understand the relationship that fungi have with healthy soil

and healthy people. A 2022 study²⁹ revealed the results of measurements across eight pairs of regenerative and conventional farms in eight states in the U.S.

To do the analysis, each regenerative farm was paired with a neighboring conventional farm that planted the same crop variety. As you might expect, the data show produce from regenerative farms was far healthier, testing higher for certain minerals, vitamins and phytochemicals. While mushrooms are the leading dietary source of ergothioneine, nearly everyone has ergothioneine in their body although not everyone eats mushrooms.

Beelman began asking the question: If not everyone eats mushrooms, then how is everyone getting ergothioneine in their body?³⁰ He and his colleagues hypothesized that it was absorbed into the crops through underground association with mycelium, the fungal threads that exist below the surface of the soil.

In a collaboration with the Rodale Institute, they measured levels of ergothioneine in oats and separated the crops based on how intensely the soil had been tilled.³¹ Data showed that oats grown on conventionally tilled land had one-third less than those grown on no-till land.

Beelman believes this demonstrates a cohesive link from soil to crop to human health. “When you till the soil, you reduce the amount of ergothioneine that gets into the crop. Nobody had actually shown a specific connection. I think this does,” he said.³²

Choose Organic or Grow Your Own

I highly recommend [adding mushrooms](#) to your nutritional plan as they are an excellent addition to nearly any meal. They complement all kinds of grass-fed meat and wild-caught fish, go well in nearly any salad and can be added to soups, casseroles and other meals. However, it is crucial to choose organically grown mushrooms as fungi easily absorb air and soil contaminants.

Growing your own is an excellent option and a far safer alternative than foraging for wild mushrooms. Although foraging may sound like fun, there are no simple rules to distinguish between toxic and edible mushrooms. According to Medscape,³³ in more

than 95% of cases where toxicity was reported, amateur mushroom hunters have misidentified poisonous mushrooms.

The severity of poisoning can vary but it is important to note the most toxic comes from mushrooms in the amanita family.³⁴ There is no antidote for amatoxin poisoning, so it's essential if you have reason to suspect someone has ingested an amatoxin containing mushroom that you do not wait for symptoms but immediately seek emergency treatment.

Some medications can help lessen the severity,³⁵ but they are not always successful. The most famous of the amanita mushroom is the lethal death cap mushroom,³⁶ which may kill more people each year than any other type of mushroom.

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