

Lion's Mane May Help Boost Your Brain Health

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STORY AT-A-GLANCE

- › Lion's mane mushroom is gaining attention for its potential health benefits, particularly for your brain and nervous system. It stimulates nerve growth factor production, potentially improving cognitive function and memory
- › Research has identified hericenone A as the compound responsible for lion's mane's brain-boosting effects. This compound promotes neuron growth and connections, showing potential against neurodegenerative disorders like Alzheimer's disease
- › Lion's mane also contains ergothioneine, a powerful antioxidant that may promote longevity and protect against age-related diseases. It also acts as a prebiotic, supporting gut health and potentially limiting harmful bacteria growth
- › Beyond brain and gut health, lion's mane may help ease depression and anxiety, boost immune health, promote heart health, aid in managing Type 2 diabetes and potentially have antitumor effects
- › Lion's mane can be foraged or purchased from specialty stores. It has a flavor similar to shellfish and can be used in various dishes. However, caution is advised when foraging, and organic options are recommended

Mushrooms have long been renowned not just for the impressive benefits they offer, but also for the interesting flavors and textures they add to your meals. You may be well-acquainted with common varieties like Crimini, Portobello and shiitake, but have you ever tried exotic ones, like lion's mane?

Lion's mane mushroom has been making headlines recently, with some even calling it the "next superfood"¹ due to its wholesome health advantages. You'll be pleased to know that beyond its quirky, pompom-like appearance, it can offer an array of benefits, particularly for your nerves, brain health and more.

Basic Facts About Lion's Mane

Most commonly found in East Asia, lion's mane (*Hericium erinaceus*) stands out from other mushroom species because it doesn't have a cap, gills and a stem – instead, it's big, shaggy and rather bizarre-looking, with long, white dangling strands that look like a lion's mane, hence its name. Its main body is thick and compact, but slightly spongy. You'll often see it growing on the trunks of dead hardwood trees.^{2,3,4}

Also called bearded tooth mushroom,⁵ lion's mane earned the distinction "the smart mushroom" for its potential benefits for your brain.⁶ However, its benefits go beyond that. In a Yahoo! News article,⁷ nutritional health coach Georgi Grogan comments:

"There's a lot of anecdotal evidence to suggest it [lion's mane] can help to reduce anxiety [and] depression, and also boost the digestive tract with its antibiotic and antiaging properties."

The benefits of lion's mane have been recognized for centuries, particularly in traditional Chinese and Japanese medicine, where it was used to help ease gastrointestinal disorders and spleen problems, treat liver and kidney diseases, and regulate heart health. Meanwhile, the indigenous populations in North America used lion's mane as a preventive measure against bleeding.⁸

The Neuroprotective Effects of Lion's Mane

Recently, lion's mane has been recognized for its potential benefits to your nervous system and brain health, with several studies highlighting its neurocognitive, neuroprotective and neurotrophic properties. Lion's mane stimulates nerve growth factor (NGF) production – this protein helps promote the growth and survival of your neurons.⁹

Having optimal neural connections improves your cognitive functions, including memory and concentration.

In one review published in the journal *Neuroscience and Biobehavioral Reviews*,¹⁰ researchers investigated the role of mushrooms on neurocognition and mood. They found that elderly patients who are dealing with mild cognitive impairment experienced improvements in cognitive function after taking a lion's mane mushroom supplement for several weeks.

Along with the cognitive benefits, there were also indications of improved kidney function, such as "changes in levels of circulating electrolytes (Na and K), and a reduction in creatinine" among the patients.¹¹ The researchers noted that lion's mane was the only mushroom that resulted in these cognitive and mood benefits; however, these effects were only seen in older age groups, at high doses and long durations.¹²

A separate analysis published in the *International Journal of Molecular Sciences* highlighted the neuroprotective and neurotrophic effects of lion's mane supplementation, noting that it has "promising potential as an excellent neuroprotective agent, capable of stimulating nerve growth factor release, regulating inflammatory processes, reducing oxidative stress, and safeguarding nerve cells from apoptosis."¹³

The authors note that the beneficial compounds in lion's mane, mainly terpenoids and polyketides like erinacines and hericenones, were responsible for these effects, as they have "antioxidative, antidiabetic, anticancer, anti-inflammatory, and hypolipidemic properties."¹⁴

Researchers Identify Lion's Mane's Brain-Boosting Mechanism of Action

In 2023, researchers from the University of Queensland identified the active compound that's responsible for lion's mane's effect on nerve growth and memory.¹⁵ According to Frederic Meunier, one of the study authors:¹⁶

"Laboratory tests measured the neurotrophic effects of compounds isolated from Hericium erinaceus on cultured brain cells, and surprisingly we found that the active compounds promote neuron projections, extending and connecting to other neurons.

Using super-resolution microscopy, 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."

They found that the compound hericine A acts as a potent memory enhancer by promoting neuritogenesis (formation of neurites, tiny projections that extend from the cell body of a neuron) both in vitro and in vivo, and even in very low concentrations. The researchers said:¹⁷

"To the best of our knowledge, our study is the first to identify a pro-BDNF signaling-enhancing activity for H. erinaceus and to identify hericine A as an active component for this neurotrophic function in vitro and in vivo.

[W]e suggest that the administration of hericine A from H. erinaceus may be useful to ameliorate brain function and disorder-related pathologies in in vivo neurodegenerative disease models. Although further studies are required to test this hypothesis, our report represents the first step on exploring the potential nootropic benefits from hericine A compounds isolated from the mushroom H. erinaceus."

In a report published on ScienceDaily, Ramon Martinez-Marmol, a coauthor of the study, highlights the importance of this discovery, saying it hold potential in "applications that could treat and protect against neurodegenerative cognitive disorders such as Alzheimer's disease."¹⁸

Ergothioneine – Another Longevity Powerhouse in Lion's Mane

A sulfur-containing amino acid found in mushrooms, ergothioneine is another standout nutrient that not only promotes brain health but overall longevity, because of its antioxidant, anti-inflammatory, antimutagenic and cytoprotectant properties.

Ergothioneine helps reduce cellular damage by eliminating harmful free radicals – its antioxidant properties are actually similar to that of glutathione.¹⁹ What's more, it accumulates in tissues and organs after ingestion, helping minimize and prevent oxidative damage in those tissues over a long period of time.²⁰

As for its benefits for cognitive health, one study published in the Free Radical Biology and Medicine says that having low levels of ergothioneine in the body can increase the risk of neurodegenerative disorders, including dementia, cognitive impairment and Parkinson's disease. It can also lead to other age-related diseases like cardiovascular disease and eye disease. According to the authors:²¹

"ET [ergothioneine] is likely to be neuroprotective by a range of mechanisms in vivo. Since complex multifactorial mechanisms contribute to human neurodegenerative and other age-related diseases, this ability to act by several cytoprotective mechanisms can be expected to enhance the efficacy of ET in ameliorating the risk of these diseases."

According to one study, lion's mane and oyster mushrooms had the highest ergothioneine levels among seven mushroom varieties that were tested,²² so adding these into your meals is one of the best ways to boost your levels of this longevity nutrient. If you want to learn more about ergothioneine, read my article, "[This Mushroom Compound Is a Longevity Powerhouse](#)."

The Benefits of Lion's Mane Go Beyond Brain Health

Lion's mane may also benefit your gut health, as it was found to be a potent prebiotic to help your good gut bacteria thrive. According to Grogan:

"Due to their beta-glucan polysaccharide component, lion's mane mushrooms are considered a 'functional food' that can act as a prebiotic. Put simply, they

may help your gut flora (and good bacteria) to flourish while potentially limiting the growth of bad bacteria like H. pylori."

Helicobacter pylori is a common type of bacteria found in your stomach. It attacks your stomach lining, leading to inflammation and damaging the tissues and your duodenum, the first section of your small intestine. H. pylori can also lead to the formation of peptic ulcers, which are painful sores that form on the upper part of your digestive tract.²³

According to a review published in the Journal of Applied and Natural Science,²⁴ animal subjects that were given an aqueous lion's mane extract had more free mucus in their GI tract, meaning they had better gastroprotection. The mucus acts as a shield that protects the lining from damaging substances, including H. pylori.

But lion's mane has more to offer beyond your brain and gut — It's also been associated with helping improve other areas of health. A 2024 review highlighted some of the body-wide effects of lion's mane, such as:²⁵

- **Easing depression and anxiety** — In one animal study,²⁶ test subjects that were exhibiting symptoms of depression were given lion's mane orally every day. They found that the mushroom had a "therapeutic potential for treating depression."
- **Boosting immune health** — Lion's mane offers bioactive compounds that may promote immunity. According to the researchers, "Mushroom-derived beta-glucans are well-known for their potent immunomodulatory properties, surpassing other types in terms of their ability to affect immune and inflammatory responses."²⁷
- **Promoting heart health** — Mushrooms offer compounds that help inhibit lipid oxidation, demonstrating an antihyperlipidemic effect. They also contain L-ergothioneine, an amino acid with antioxidant and anti-inflammatory properties, helping boost cardiovascular health.
- **Helping manage Type 2 diabetes** — In one animal study,²⁸ diabetic rats that were given lion's mane extract had increased serum insulin and reduced glucose levels. It also helped improve the activity of free radical scavenging enzymes.

- **Reducing cancer risk** – Erinacine, another bioactive compound found in lion's mane, may have antitumor effects, potentially triggering cancer cell death, particularly among gastric cancer cells.

Where to Find Lion's Mane Mushrooms

While lion's mane mushrooms are mostly well-known in Asian countries, they grow in North America and Europe as well. In the U.S., you may see them thriving on dead or dying maple, oak or beech trees. According to the Mycelium Society, you can forage for lion's mane in the late summer, fall and winter – it depends on your location:

"In the southeast, lion's mane is foraged in winter, while in the northeast, it is found in autumn. The season ends as soon as temperatures drop below 20 [degrees] F, and there are hard frosts."²⁹

However, don't be so quick to start gathering lion's mane – there are areas where foraging mushrooms is prohibited. If it's allowed in your area, make sure to bring an expert who can help you identify the mushrooms before you pick them. This is particularly important if you are by yourself. To help you identify, harvest and store lion's mane, here are some pointers, according to an article in CNET:³⁰

"You'll know it's ripe by feeling the mushroom. If it's spongy and soft, you're good to go. Take a knife to remove the mushroom while leaving the roots. When you return home, cook the mushrooms immediately or store them in a paper bag in your fridge for up to three days,"

But how does this mushroom fare in terms of flavor? Apparently, lion's mane has a "hearty and satiating" taste; Pamela Smith, RDN, a registered dietitian and the founder of Shaping America's Plate, describes its sweet flavor to be similar to that of shellfish like scallops, lobster meat or crabmeat.³¹ When grated, it looks similar to lump crab meat.

Lion's mane is spongy, which is why it's so great at soaking up flavors. Simply sauté it in a bit of butter, salt and pepper for an easy side dish. You can also use it to make crab

cakes or fish stew. It also works as a replacement for shredded chicken meat, like in pot pies, casseroles or even pasta dishes.

If your area does not allow foraging for mushrooms, you can try checking specialty stores to see if they stock this type. You can also buy lion's mane in supplement form, if you're after the benefits.

Mushrooms Are a Superfood, so Add Them to Your Repertoire

Remember that lion's mane is just one variety that can offer superb benefits. In fact, mushrooms in general are considered superfoods because of their impressive nutrient profile. According to Smith, they are a potent source of B vitamins like biotin and niacin, glutathione and other antioxidants that protect against chronic diseases.³²

I highly recommend adding mushrooms to your nutritional plan as they are an excellent addition to nearly any meal. However, it is crucial to choose organically grown mushrooms as fungi easily absorb air and soil contaminants. Growing your own is also an excellent and far safer option than foraging for wild mushrooms.

Aside from lion's mane, other mushrooms that can offer health-boosting advantages include shiitake, pine mushrooms, oyster mushrooms, porcinis, king boletes, chanterelles and enokitake.³³ Each of these have a distinct flavor profile, making them a versatile addition to various dishes – try a few and have fun cooking them in your kitchen!

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