

*Cognitive Vitality Reports® are reports written by neuroscientists at the Alzheimer's Drug Discovery Foundation (ADDF). These scientific reports include analysis of drugs, drugs-in-development, drug targets, supplements, nutraceuticals, food/drink, non-pharmacologic interventions, and risk factors. Neuroscientists evaluate the potential benefit (or harm) for brain health, as well as for age-related health concerns that can affect brain health (e.g., cardiovascular diseases, cancers, diabetes/metabolic syndrome). In addition, these reports include evaluation of safety data, from clinical trials if available, and from preclinical models.*

## Lion's Mane Mushroom

### Evidence Summary

Cognitive effects with lion's mane supplementation have been mixed based on a few small pilot clinical trials. Larger, longer duration trials are needed to evaluate efficacy and safety.

**Neuroprotective Benefit:** Cognitive effects with lion's mane have been mixed based on a few clinical trials; these trials had small numbers of participants and short durations of treatment. Well-designed larger and longer clinical trials are needed to evaluate efficacy.

**Aging and related health concerns:** Preclinical studies suggest lion's mane improves metabolic diseases and cancer. Studies in humans are very limited. One small study in humans suggests improved gut microbiome with lion's mane supplementation.

**Safety:** Lion's mane is generally recognized as safe when consumed as food. However, safety data are limited for long-term use of supplements. Long-term placebo-controlled and rigorously-designed clinical trials are needed to confirm safety of supplements.

## What is it?

Lion's mane mushroom (also known as *Hericium erinaceus* and yamabushitake) is a medicinal, edible mushroom native to North America, Europe, and Asia. Lion's mane mushrooms contain many bioactive compounds with potential health benefits, including polysaccharides (e.g.,  $\beta$ -glucans), terpenoids, polyphenols, and peptides, which contribute to their immunomodulatory, antioxidant, anti-inflammatory, and antimicrobial properties (reviewed in [Contato et al., 2025](#)). Polysaccharides, especially  $\beta$ -glucans, have immunomodulatory, antimicrobial, and anti-tumor effects. Other polysaccharides (e.g., heteropolysaccharides composed of glucose, mannose, galactose, and arabinose) have demonstrated anti-oxidative and blood sugar-lowering effects. Lion's mane mushrooms contain terpenoids called hericenones (derived from the fruiting body) and erinacines (derived from the mycelia), which have been shown to stimulate the synthesis of nerve growth factor (NGF), known to promote neuronal growth and repair. Erinacines are cyathin diterpenoids, of which 15 (A-K and P-S) have been identified to date in lion's mane, with erinacine A being reported to have the greatest biological activity ([Li et al, 2018](#); [Khan et al, 2013](#)). Lion's mane mushrooms also contain ergothioneine (histidine derivative) and phenolic compounds that exhibit antioxidant effects (reviewed in [Brandalise et al., 2023](#)).

Mushrooms, in general, contain essential nutrients, including vitamin D, B vitamins, selenium, zinc, and potassium, as well as prebiotic fibers that support gut health. Lion's mane is reported to have neuroprotective, anti-cancer, and anti-inflammatory properties. However, there is no standardized treatment of lion's mane. Some studies use powdered fruiting bodies or mycelia, while other studies use extracts from these different components. Similarly, lion's mane products available in stores come in different forms.

**Neuroprotective benefit:** Cognitive effects with lion's mane have been mixed based on a few clinical trials; these trials had small numbers of participants and short durations of treatment. Well-designed larger and longer clinical trials are needed to evaluate efficacy.

### *Types of evidence:*

- 7 randomized controlled trials
- Numerous laboratory studies
- Numerous review articles

***Human research to suggest prevention of dementia, prevention of decline, or improved cognitive function:***

In a double-blind randomized placebo-controlled trial of 30 people (50- to 80-year-olds) with mild cognitive impairment, lion's mane mushroom treatment (4x250 mg tablets, 3 times daily, total of 3 g daily, orally) for 16 weeks resulted in increased scores on the cognitive function scale (Revised Hasegawa Dementia Scale, HDS-R) compared with the placebo group ([Mori et al., 2009](#)). However, 4 weeks after the end of the treatment, cognitive scores decreased, suggesting that it may not have lasting benefits (though cognitive scores were numerically a little higher than the start of the study). The placebo group showed a modest increase over time, including after the end of placebo intake, suggesting a mild practice effect with the cognitive testing.

In a double-blind randomized placebo-controlled trial of 31 healthy adults (over the age of 50), lion's mane treatment (3.2 g daily) for 12 weeks improved cognitive function based on the Mini Mental State Examination (MMSE) but not on two other cognitive tests (the Benton visual retention test or standard verbal paired association test) ([Saito et al., 2019](#)). It is worth noting that in healthy adults, MMSE scores are generally very high, with little room for improvement. It is unusual to see improvement in MMSE in a healthy population. The Lion's mane group had a higher baseline cognitive score, and the placebo group appeared to improve over time as well, so it is not possible to rule out practice effect.

In a double-blind randomized controlled trial of 41 adults (18-45 years old), lion's mane mushroom treatment (1.8 g/day; 3 capsules daily after breakfast, each capsule containing 600 mg of lion's mane; SO-DSX1, Sempera Organics Inc., Morgan Hill, CA) for 28 days showed a trend towards reduced subjective stress ( $p=0.051$ ) ([Docherty et al., 2023](#)). However, the same lion's mane treatment for 28 days resulted in fewer words recalled on the delayed word recall accuracy test compared to the placebo group ( $p<0.001$ ). With regards to acute effects, a single dose of the same lion's mane supplement resulted in a faster speed of performance on the Stroop task ( $p=0.005$ ) at 60 minutes post-dose compared to baseline. However, a single dose of lion's mane supplement resulted in more errors on the immediate word recall test compared to the placebo condition. There were a total of 8 cognitive tests and 2 mood scales evaluated in this study, with 2 treatment durations (20 outcomes). Therefore, chance findings cannot be ruled out.

In a single-blind placebo-controlled clinical trial of 24 college age adults, lion's mane treatment (10 g/day in the form of 2 muffins; Nammex Organic Mushroom Extracts, Gibsons, BC) for 4 weeks did not

significantly affect cognitive function (measured by Stroop Color Word test and mental arithmetic test)([Grozier et al., 2022](#)).

In a double-blind randomized controlled crossover trial of 18 healthy young adults (18 to 35 years old), a single dose of lion's mane fruiting body extract (3 g of 10:1 extract, i.e., equivalent to 30 g of fresh lion's mane fruiting body) did not significantly affect composite measures of global cognitive function or mood compared to placebo ([Surendran et al., 2025](#)). The lion's mane extract was ingested as a 250 mL drink (3 g of the extract mixed with 220 mL of water and 30 mL of Robinson's Lemon Squash as vehicle). The placebo drink was matched except for the absence of the lion's mane extract. Cognitive function and mood were evaluated 90 minutes after ingestion of lion's mane or placebo drink. The cognitive test battery included Trail Making Test parts A and B, Digit Span Test, Digit Symbol Substitution Test, Grooved Pegboard Test, Deary-Liewald Task, and the Flanker Task. The Positive and Negative Affect Schedule was used as a composite measure of mood. When individual cognitive tests were evaluated, lion's mane treatment resulted in better performance on psychomotor function (measured by the Pegboard-Dominant test) and worse performance on inhibitory control (measured by the Flanker test) compared to placebo. Lion's mane treatment also led to a significant decline in executive function (measured by the Trails B task) compared to baseline.

#### ***Human research to suggest benefits to patients with dementia:***

In a double-blind randomized controlled trial of 49 patients with mild AD, treatment with lion's mane mycelia (3 capsules daily, 350 mg/capsule containing 5 mg/g erinacine A) for 49 weeks significantly improved Instrumental Activities of Daily Living score compared to placebo ([Li et al., 2020](#)). However, no treatment effects were seen for cognitive functions (MMSE, Cognitive Abilities Screening Instrument) or neuropsychiatric inventory.

#### ***Mechanisms of action for neuroprotection identified from laboratory and clinical research:***

Major depression is an established risk factor for subsequent dementia ([Livingston et al., 2024](#)). Therefore, reducing the symptoms of depression may indirectly promote neuroprotection. A double-blind randomized controlled trial of 30 women (mean age 41.3) tested the effects of Lion's mane on measures of depression, sleep quality, and menopausal complaints ([Nagano et al., 2010](#)). The intervention was for 4 weeks and consisted of 4 cookies daily, each containing 0.5 g of powdered fruiting body of lion's mane, or no powder (placebo cookies). Although after 4 weeks of lion's mane treatment, participants had better scores on depression (Center for Epidemiologic Studies Depression Scale) and

complaints (measured by the Indefinite Complaints Index) compared to baseline, these outcomes were not significantly different compared to placebo. Other measures, including menopausal symptoms (measured by the Kupperman Menopausal Index) and sleep quality (measured by the Pittsburgh Sleep Quality Index) were not improved with lion's mane treatment.

In a controlled trial of 77 overweight or obese people with mood and/or sleep disorders and/or binge eating, a low calorie diet regimen combined with lion's mane supplementation (3 capsules/day of Micotherapy Hericium, AVD Reform s.r.l., Noceto, Parma, Italy) for 8 weeks resulted in decreased ratings of depression, anxiety, and sleep disorders along with a significant increase in serum pro-BDNF ([Vigna et al., 2019](#)). Levels of pro-BDNF did not show significant changes after an 8-week washout. Levels of serum BDNF were not significantly altered after 8 weeks of lion's mane treatment, but a significant decrease in BDNF levels was seen after the 8-week washout. It is not clear why BDNF levels dipped after treatment when there were no changes during treatment. The supplement consisted of 80% mycelia and 20% fruiting body extract. Because of the small study size and lack of a placebo control, larger randomized placebo-controlled trials are needed to confirm these initial findings.

With regards to mechanisms of action, Lion's mane mushrooms contain many bioactive compounds with potential health benefits, including polysaccharides (e.g.,  $\beta$ -glucans), terpenoids, polyphenols, and peptides, which contribute to their immunomodulatory, antioxidant, anti-inflammatory, and antimicrobial properties (reviewed in [Contato et al., 2025](#)). Terpenoids present in lion's mane mushrooms include hericenones (derived from the fruiting body) and erinacines (derived from the mycelia), which have been shown to stimulate the synthesis of NGF, known to promote neuronal growth and repair. Among these, erinacine A and erinacine S have been shown to cross the blood-brain barrier in rats ([Tsai et al., 2021](#); [Hu et al., 2019](#)). In addition to the effects on NGF and neurogenesis, studies in rodents have reported that hericenones and erinacines exhibit anti-inflammatory effects, modulating inflammatory pathways such as NF-kB and COX-2.

Phenolic compounds (e.g., gallic acid, caffeic acid, p-coumaric acid) in lion's mane mushrooms exert anti-oxidant activities, mitigating oxidative stress and cellular damage (reviewed in [Contato et al., 2025](#)).

*Studies of Alzheimer's disease models:* Treatment of 5-month-old Alzheimer's mice for 30 days with either Lion's mane mycelium or its ethanol extract reduced the number of amyloid plaques (non-compact part and not the plaque core). The ethanol extract reduced soluble A $\beta$ 42, but there were no other effects on soluble or insoluble A $\beta$ 42. Both compounds also improved behavior, increased expression of insulin degrading enzyme (IDE), increased neurogenesis, reduced astro- and microgliosis,

and increased the NGF/pro-NGF ratio ([Tsai-Teng et al, 2016](#)). Treatment of 5-month-old Alzheimer's mice with erinacine A or S also reduced amyloid plaques, astro- and microgliosis, increased levels of IDE (but not NGF), increased neurogenesis, and improved cognition ([Chen et al, 2016](#); [Tzeng et al, 2018](#)). The mycelium polysaccharide-enriched aqueous extract of Lion's mane also improved cognition and increased the levels of acetylcholine and choline acetyltransferase (ChAT) in a D-galactose-induced model of Alzheimer's disease ([Zhang et al, 2016](#)). Finally, feeding mice a diet of lion's mane improved cognition in a model of intracerebroventricular (ICV) injection of A $\beta$  ([Mori et al, 2010](#)).

*Studies of normal mice:* Lion's mane treatment in healthy mice increased the mRNA of NGF in the hippocampus ([Mori et al, 2008](#)). In young, healthy mice, lion's mane treatment also improved cognition and improved neurotransmission in hippocampal slices ([Brandalise et al, 2017](#)).

In aged mice (15-month-old mice), treatment with lion's mane (ergothioneine-rich primordium extract in drink) for 8 months prevented cognitive decline (measured by the novel object recognition test and the Y-maze test)([Roda et al., 2023](#)). Cognitive preservation with lion's mane treatment was accompanied by decreased markers of inflammation (IL-6, TGF $\beta$ 1, GFAP) and increased density of cells with glutamate receptor subunits (NMDAR1 and mGluR2) in the hippocampus.

*Studies of other disease models:*

Lion's mane-enriched erinacine A extract reduced ischemic stroke infarct size by up to 44% and reduced the levels of several inflammatory cytokines (IL-1 $\beta$ , IL-6, TNF $\alpha$ ) ([Lee et al, 2014](#)).

In Parkinson's models, Lion's mane mycelium-enriched erinacine A reduced dopaminergic cell loss, the production of reactive oxygen species, and improved motor deficits ([Kuo et al, 2016](#); [Lee et al, 2020](#)).

In a model of accelerated aging (3-month-old SAMP8 mice), treatment with erinacine A-enriched lion's mane (108, 215, and 431 mg/kg/day, orally) for 13 weeks significantly improved learning and memory measured by the passive and active avoidance tests, while dose-dependently reducing markers of inflammation and oxidative stress (iNOS activity, TBARS, and 8-OHdG)([Lee et al., 2021](#)).

*In vitro studies:* Lion's mane, and some of its constituents, was reported to increase the expression of NGF in several cell lines ([Mori et al, 2008](#); [Li et al, 2018](#)). Several constituents from lion's mane mycelia were able to stimulate neurite length in the presence of NGF, an effect that was mediated through TrkA and Erk1/2, and reduced cell death of neuronally-differentiated PC12 cells after NGF removal. They also increased neurite outgrowth of primary rat cortical neurons ([Zhang et al, 2017](#)). More than a dozen



studies have examined whether components of lion's mane increase the expression of NGF or increase neurite outgrowth *in vitro*. Most show beneficial effects on these outcomes, some show no effect, whereas one showed a reduction of NGF-stimulated neurite outgrowth in PC12 cells (scabronine M) ([Bailly and Gao, 2020](#)).

**APOE4 Interactions:** Unknown.

**Aging and related health concerns:** Preclinical studies suggest lion's mane improves metabolic diseases and cancer. Studies in humans are very limited. One small study in humans suggests improved gut microbiome with lion's mane supplementation.

*Types of evidence:*

- 2 clinical trials
- Numerous laboratory studies

**Lifespan:** INCREASED IN MICE AND FLIES

[Ratto et al \(2019\)](#) developed a frailty index in old mice based on locomotion and cognition. Two-month treatment with a lion's mane extract improved scores on the frailty index. This was driven by an improvement in cognitive performance. In addition, hippocampal neurogenesis was increased after supplementation.

In aged mice fed a high fat/high sucrose diet, treatment with Lion's mane or the extract erinacine A improved cognition and reduced mRNA of inflammatory genes (TNF $\alpha$ , IL- $\beta$ ) in the hippocampus. In addition, Lion's mane, but not erinacine A, increased mRNA expression of NGF and NeuN in the hippocampus. Lion's mane and erinacine A also improved several metabolic parameters such as adipose tissue weight, plasma glucose, total cholesterol, and liver triacylglycerol and cholesterol ([Tsai et al, 2019](#)).

Erinacine A-enriched Lion's mane mycelia also increased maximum lifespan of *Drosophila* and in 6-month-old SAMP8 mice by 32% and 23%, respectively. Life extension for SAMP8 mice was most effective at the highest dose (431 mg/kg/day) ([Li et al, 2018](#)).



**Neuropathy: POTENTIAL BENEFIT BASED ON RODENT MODELS**

[Yang et al \(2020\)](#) reported that lion's mane mycelium extract and erinacine S (but not erinacine A) could counteract the cytotoxic effects of purinoreceptor (P2R – thought to be involved with pain signaling) in human osteosarcoma HOS cells and human neuroblastoma cells. Both lion's mane extract and erinacine S reduced neuropathic pain (measured by paw withdrawal pressure) in mouse models of spinal nerve ligation. Both also reduced inflammation (IL-6, GFAP, Iba1) in the ligation site (also [Liu et al, 2017](#)). Lion's mane fruiting bodies were also reported to improve functional activity and nerve regeneration following a peroneal nerve crush injury ([Wong et al, 2012](#); [Wong et al, 2010](#)). In a rat model of alloxan induced diabetic neuropathic pain, lion's mane treatment increased pain threshold and increased the total antioxidant status in the plasma ([Yi et al, 2015](#)).

**Metabolic diseases: BENEFIT IN RODENT MODELS; INCONCLUSIVE IN HUMANS**

In a controlled trial of 77 overweight or obese people with mood and/or sleep disorders and/or binge eating, a low calorie diet regimen combined with lion's mane supplementation (3 capsules/day of Micotherapy Hericium, AVD Reform s.r.l., Noceto, Parma, Italy) for 8 weeks resulted in decreased depression, anxiety, and sleep disorders ([Vigna et al., 2019](#)). Binge eating was reduced with the low-calorie diet regimen but was not affected by the addition of lion's mane supplementation. Because of the small study size and lack of a placebo control, further studies are needed to confirm these initial findings.

[Zhang et al \(2017\)](#) treated streptozotocin (STZ)-induced diabetic mice with two intracellular polysaccharide (HIPS) purified fractions (HIPS1 and HIPS2) from lion's mane with the thesis they could inhibit the absorption of glucose by inhibiting carbohydrate-hydrolyzing enzymes. Both inhibited  $\alpha$ -amylase and  $\alpha$ -glucosidase, with HIPS1 being more effective. Two-week treatment reduced plasma glucose levels, and suppressed abnormal elevations of liver enzymes, urea nitrogen, and creatine in the plasma. They also increased levels of antioxidant enzymes and attenuated pathology in the liver and kidney.

Additionally, 28-day treatment with an aqueous extract of Lion's mane in a diabetic rat model reduced serum glucose levels, increased serum insulin levels, improved lipid levels (triglycerides, cholesterol, LDL, HDL), increased the activity of several antioxidant enzymes, and reduced malondialdehyde (a marker of oxidative stress) in the liver ([Liang et al, 2013](#)). Another study also showed metabolic improvements in a mouse model fed a high-fat diet after a 28-day treatment with a hot-water or ethanol extract of lion's mane ([Hiwatashi et al, 2010](#)).



**Cancer:** POTENTIAL BENEFIT BASED ON MOUSE MODELS

In a mouse model with transplanted colon cancer cells on the back, 2-week treatment with hot water or ethanol extracts of lion's mane reduced tumor weight by 38% and 41%, respectively. There was an increase in the cytolytic activity of splenic natural killer cells, an increase in the phagocytic activity of macrophages, an increase in pro-inflammatory cytokines from macrophages, and a ~60% reduction in blood vessel infiltration in the tumors ([Kim et al, 2011](#)). Another mouse model suggested that these two extracts could inhibit infiltration of colon carcinoma cells into the lung by ~66% and prevented the increase in lung weight due to tumor nodules ([Kim et al, 2013](#)).

*In vitro* studies suggest that Lion's mane may have anti-proliferation and pro-apoptotic effects in different cancer cell lines ([Wang et al, 2018](#)).

**Microbiome:** POTENTIAL BENEFIT

In a pilot clinical trial of 13 healthy adults (mean age, 30 years old), lion's mane powder (1 g, 3 times daily, orally; Jiangsu Shenhua Pharmaceutical Co., Ltd., China) for 7 days increased the alpha diversity (number of different types of microbial species; higher alpha diversity is generally associated with a more resilient and functional gut microbiome), the relative abundance of beneficial bacteria such as *Bifidobacterium* and *Bacteroides*, and the relative abundance of some short-chain fatty acid-producing bacteria (*Kineothrix alysoides*, *Gemmiger formicilis*, *Fusicatenibacter saccharivorans*, *Eubacterium rectale*, *Faecalibacterium prausnitzii*), and downregulated some pathobionts (*Streptococcus thermophilus*, *Bacteroides caccae*, *Romboutsia timonensis*, *Roseburia intestinalis*, and *Anaerostipes hadrus*) ([Xie et al., 2021](#)).

**Safety:** Lion's mane is generally recognized as safe when consumed as food. However, safety data are limited for long-term use of supplements. Long-term placebo-controlled and rigorously-designed clinical trials are needed to confirm safety of supplements.

*Types of evidence:*

- 3 clinical trials
- Numerous laboratory studies
- Several review articles

Lion's mane mushroom is generally recognized as safe when consumed as a food. However, safety information is limited for long-term treatment using a lion's mane supplement. Pharmacokinetic

properties of the supplements as well as their individual bioactive compounds have not been fully established in humans. There is also currently a lack of standardization in extraction methods and levels of bioactive compounds. Long-term well-controlled and rigorously-designed clinical trials with standardized treatments are needed to fully evaluate the safety of Lion's mane supplementation.

In a double-blind randomized controlled trial of 49 patients with mild AD, treatment with lion's mane mycelia (3 capsules daily, 350 mg/capsule containing 5 mg/g erinacine A) for 49 weeks was well tolerated ([Li et al., 2020](#)). Other than 4 subjects who dropped out of the study due to abdominal discomfort, nausea, and skin rash, no other adverse events were reported. Three of the adverse events were from the lion's mane treatment group (abdominal discomfort, nausea, and skin rash) and 1 was from the placebo group (nausea).

A double-blind randomized controlled trial of 30 people with mild cognitive impairment reported that lion's mane mushroom treatment for 16 weeks resulted in no adverse effects on laboratory tests ([Mori et al., 2009](#)). One patient did withdraw from the study due to stomach discomfort. Seven subjects from the lion's mane group and 6 subjects from the placebo group reported stomach discomfort and diarrhea but were mild in severity and required no treatment.

In a pilot clinical trial of 13 healthy adults (mean age, 30 years old), lion's mane powder (1 g, 3 times daily, orally; Jiangsu Shenhua Pharmaceutical Co., Ltd., China) for 7 days did not result in significant effects on routine hematological examinations, including the composition of blood cells ([Xie et al., 2021](#)). There were also no effects of lion's mane treatment on liver function enzymes such as AST and ALT. Compared to baseline, levels of alkaline phosphatase (ALP; high levels associated with liver problems), LDL-cholesterol, uric acid (high levels associated with kidney and vascular diseases), and creatinine (high levels associated with chronic kidney disease) tended to be lower after lion's mane mushroom treatment.

In rats, lion's mane mushroom's LD<sub>50</sub> was reported to be higher than 5 g/kg ([Li et al., 2018](#)).

**Drug interactions:** Drug interactions with lion's mane mushroom have not been documented.

### Sources and dosing:

Lion's mane mushroom is available as food or as an over-the-counter supplement in the US. In Japan, lion's mane mushroom is incorporated into Kampo medicine formulations. In China, lion's mane mushroom is included in the Chinese Pharmacopoeia and used in traditional Chinese medicine. The European Union Novel Foods Guidelines prohibit the use of mycelial extracts, and therefore, lion's mane supplements in the EU are derived from the fruiting body.

Supplements are available in various forms, including capsules, tablets, powder, liquid extracts, functional beverages, and protein bars (reviewed in [Contato et al., 2025](#)). In addition to variations in cultivation time and methods, different methods of processing and extraction can yield extracts with variable levels of individual compounds. Advanced techniques of extraction, including supercritical fluid extraction, ultrasound-assisted extraction, microwave-assisted extraction, and enzyme-assisted extraction, have shown greater efficiency in isolating polysaccharides, terpenoids, and phenolic compounds while preserving their bioactivity ([Contato et al., 2025](#); [Sirohi et al., 2024](#)). In addition, encapsulation of bioactive compounds into nanoparticles/nanoliposomes may increase their bioavailability and stability.

Dosage has not been established for any indication. One study tested a one-gram oral dose 3 times per day (3 g/day) of powdered Lion's mane fruiting bodies ([Mori et al., 2009](#)). Another used 3.2 g of powdered Lion's mane fruiting bodies per day ([Saito et al., 2019](#)). Preclinical studies used various extracts of Lion's mane. In supplement stores, lion's mane products come in different varieties (e.g. fermented Lion's mane, powdered Lion's mane mycelium, etc.).

### Research underway:

There are 3 ongoing clinical trials testing lion's mane supplementation, of which one is testing its effects on cognitive function. A double-blind randomized placebo-controlled trial is evaluating the effects of a lion's mane product on cognitive health outcomes through self-reported measures ([NCT06870136](#)). This study aims to enroll 150 participants and the study duration is 14 weeks. Its primary outcome is the effect of lion's mane supplementation on a composite measure of attention, short-term memory, and working memory. Secondary outcomes include other cognitive domain functions, mood, motivation, sleep quality, daytime alertness, and stress. This study is estimated to be completed in September 2025.

An ongoing double-blind randomized placebo-controlled trial of 135 Gen Z women is testing the effects of lion's mane mushroom supplementation on mental wellbeing ([NCT06406946](#)). The participants will receive either lion's mane mushroom (1.8 g/day), a blend of lion's mane mushroom and reishi mushroom (1.8 g/day), or placebo. The intervention duration is 28 days and the primary outcome is a rating of anxiety. Secondary outcomes include measures of stress, fatigue, and self esteem. This study was scheduled to be completed in February 2025, but results have not been posted as of July 2025.

An ongoing double-blind randomized placebo-controlled trial is evaluating the effects of a mushroom blend (lion's mane, reishi, and cordyceps) on gastrointestinal microbiome makeup in 40 healthy adults ([NCT07027462](#)). This study is scheduled to be completed in early 2026.

**Search terms:**

Pubmed, Google: Lion's mane, *Hericium erinaceus*, [yamabushitake](#)

**Websites visited for Lion's mane:**

- [Clinicaltrials.gov](#)
- [Examine.com](#)
- DrugAge (0)
- [Drugs.com](#)
- [WebMD.com](#)
- Labdoor.com (0)

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