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ManeFocus: The Gold Standard Lion's Mane Ingredient

Dual-extracted and standardized to deliver the greatest total active metabolite content.

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Contents

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Executive Summary

ManeFocus™ represents a significant advancement in the standardization, potency, and clinical alignment of Lion's Mane (Hericium spp.) ingredients. Developed by Monterey Nutra, this ingredient combines proprietary strains of Lion's Mane with advanced cultivation and extraction methods to deliver unprecedented levels of bioactive terpenes—including erinacines, hericenones, and hericenes—totaling over 5 mg/g.

Unlike conventional Lion's Mane powders that often lack quantified active compounds and show inconsistent performance, ManeFocus is developed through rigorous strain selection, innovative substrate usage (including supplemented hardwood and antioxidant-rich sorghum), and third-party validated metabolite quantification.

This positions ManeFocus as one of the most chemically defined Lion's Mane ingredients on the market.

The clinical evidence base for Hericium spp. supports its role in cognitive function, mood support, neurotrophic activity, and gut microbiome modulation [3–10]. The unique bioactive compounds in Lion's Mane that support cognitive health are derived from distinct fungal components, including the fruiting body and the mycelium [2,4]. Monterey Nutra combines proprietary cultivation methods to unite pure fruiting bodies grown on hardwood with fermented H. erinaceus mycelium in optimal ratios, maximizing the diversity and concentration of active compounds for superior neurological and metabolic support as defined by ongoing lion's mane research.

This white paper outlines the scientific rationale, phytochemical profile, mechanisms of action, clinical evidence, regulatory substantiation, manufacturing approach, and commercial positioning of ManeFocus. It is intended for formulators, regulatory professionals, and industry stakeholders seeking clinically aligned, standardized functional mushroom ingredients.

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Introduction

Lion's Mane (Hericium erinaceus) is a saprophytic basidiomycete fungus long revered in East Asian medicine for promoting gastrointestinal health, neurological vitality, and overall well-being [2–4]. Traditionally consumed as both a tonic and culinary mushroom, it has been valued for its ability to restore balance between the body and mind. In recent decades, H. erinaceus has gained significant global attention for its potential to enhance cognitive performance and emotional resilience. A growing body of preclinical and clinical research highlights its ability to stimulate the production of Nerve Growth Factor (NGF) and Brain-Derived Neurotrophic Factor (BDNF)—key proteins involved in neuronal growth, repair, and synaptic plasticity [7–10]. These mechanisms underpin its observed effects on neurogenesis, memory, and mood regulation [3,5]. In addition to neurotrophic activity, H. erinaceus also influences the gut–brain axis through modulation of the intestinal microbiome, supporting a more holistic model of mental and neurological health [12,13].

While H. erinaceus fruiting bodies are the best-known source of hericenones and related terpenoid compounds, new research has shown that different fungal tissues—including primordia, mycelium, and extracellular metabolites—contain distinct yet complementary classes of bioactives such as hericenes [2,4,9,11]. These compounds act across multiple biochemical pathways, contributing to neuroprotective, anti-inflammatory, and antioxidative effects that extend beyond the central nervous system to overall metabolic and immune health [6,15]. Interest in Lion's Mane is part of a broader movement toward natural nootropics and adaptogenic ingredients that support cognitive wellness and emotional balance [3]. Rising global rates of mental fatigue, stress, and age-related cognitive decline have created an urgent demand for natural solutions that combine traditional wisdom with contemporary scientific rigor. Functional mushrooms now occupy a central position in this space—bridging ancient ethnopharmacology with modern neuroscience and nutraceutical innovation.

Despite widespread enthusiasm, the commercial marketplace for Lion's Mane ingredients remains highly variable in quality and potency. Many commercially available powders are poorly standardized, containing unquantified levels of active terpenes or consisting largely of grain substrates with minimal fungal biomass [11]. This inconsistency has led to unreliable product performance and confusion among formulators and consumers alike.

ManeFocus was developed by Monterey Nutra to address this critical gap. Through proprietary strain selection, advanced substrate optimization, and third-party validated metabolite quantification, ManeFocus ensures consistent, high concentrations of neuroactive compounds, including erinacines, hericenones, and hericenes—at levels exceeding 5 mg/g. Our rigorous standardization, and transparent analytical validation, positions ManeFocus as one of the most chemically defined Lion's Mane ingredients on the market, purpose-built for formulators seeking clinically relevant, reproducible efficacy in cognitive and neurological applications.

Unlocking the Full Potential of Lion's Mane through Synergy

Lion's Mane (Hericium spp.) has earned global attention for its unique ability to support cognitive function, mood, and cognitive health [3,4,5]. But the true power of this mushroom doesn't reside in any single compound, or even a single part of the organism—it emerges from the synergistic interplay between its distinct anatomical components: the mycelium, the fruiting body, and the extracellular metabolites produced during cultivation. Each of these components synthesizes a different class of bioactive compounds, and it is only by combining them intelligently that the full spectrum of Lion's Mane's benefits can be realized [2,4].

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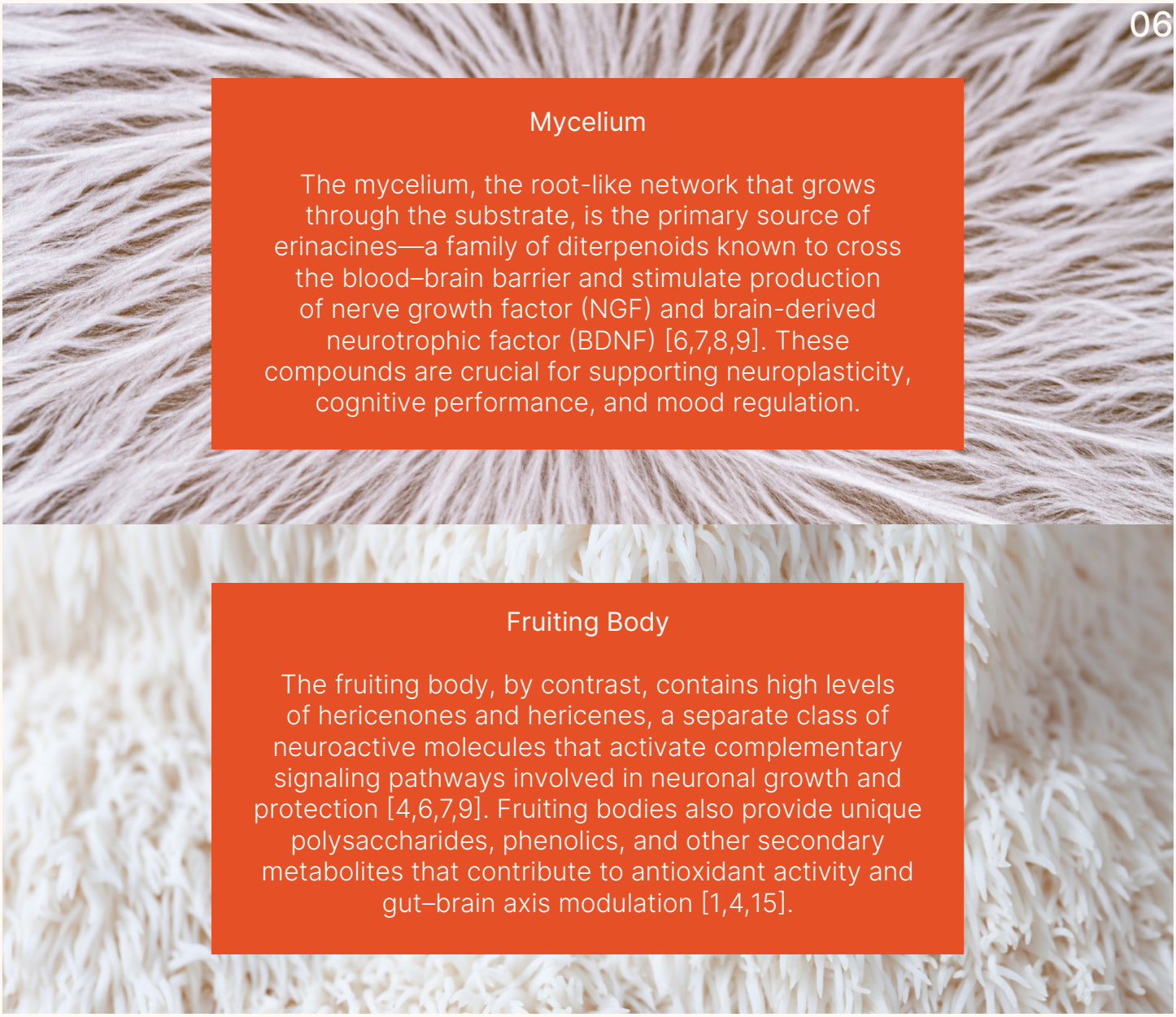

Mycelium

The mycelium, the root-like network that grows through the substrate, is the primary source of erinacines—a family of diterpenoids known to cross the blood–brain barrier and stimulate production of nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) [6,7,8,9]. These compounds are crucial for supporting neuroplasticity, cognitive performance, and mood regulation.

Fruiting Body

The fruiting body, by contrast, contains high levels of hericenones and hericenes, a separate class of neuroactive molecules that activate complementary signaling pathways involved in neuronal growth and protection [4,6,7,9]. Fruiting bodies also provide unique polysaccharides, phenolics, and other secondary metabolites that contribute to antioxidant activity and gut–brain axis modulation [1,4,15].

Finally, the extracellular compounds—the bioactive metabolites secreted during the cultivation process—include additional terpenes, peptides, and polyphenols that often do not remain in either mycelium or fruiting body biomass after harvest. These compounds can exert independent biological effects like antioxidant activity, anti-inflammatory signaling and ultimately enhance the activity of other components through synergistic interactions [2,6].

Many commercial Lion's Mane ingredients rely on only one component—either mycelium or fruiting body—due to ease of production or cost considerations. However, this single-component approach fundamentally limits the diversity and concentration of active compounds. Fruiting body-only products lack erinacines, while mycelium-only products often contain little to no hericenones and may have high residual grain content, diluting potency [4,11].

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Multi-Component Cultivation

The most effective strategy is to cultivate each component, fruiting body and mycelium, under conditions optimized for its unique chemistry, then combine them into a single standardized ingredient [2,4]. By tailoring cultivation methods—for example, growing mycelium on substrates designed to maximize erinacine biosynthesis, and separately producing fruiting bodies under conditions that elevate hericenone and hericene levels—Monterey Nutra ensures that each part contributes its highest possible concentration of target metabolites [8,9,11]. The result is a formulation that mirrors the mushroom's natural complexity while exceeding the potency of any single-source preparation. This full-spectrum, component-specific approach is at the heart of ManeFocus. ManeFocus combines hardwood-grown, pure fruiting bodies with fermented mycelium to leverage the complementary strengths of each component, delivering a truly comprehensive lion's mane ingredient. It represents a shift away from simplistic "mycelium vs. fruiting body" debates toward a scientifically grounded strategy that leverages the complementary strengths of each component—delivering a truly comprehensive Lion's Mane ingredient [4,11].

"ManeFocus combines hardwood-grown, pure fruiting bodies with fermented mycelium to leverage the complementary strengths of each component—delivering a truly comprehensive lion's mane ingredient."

Principal Compounds

The neurotrophic and functional properties of Lion's Mane (Hericium erinaceus) are largely attributed to three principal classes of compounds: erinacines, hericenones, and hericenes [4,6]. These diterpenoid and aromatic compounds possess unique neuroactive properties, including the ability to cross the blood–brain barrier and stimulate the expression of Nerve Growth Factor (NGF) and Brain-Derived Neurotrophic Factor (BDNF) [7–10]. Together, these mechanisms promote neuronal growth, repair, and synaptic plasticity—key processes underlying learning, memory, and emotional regulation.

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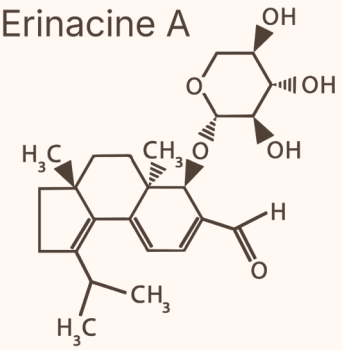
Erinacines

Erinacines are primarily biosynthesized in the mycelial phase of H. erinaceus [4,9]. Among them, Erinacine A has been the most extensively characterized and has demonstrated the capacity to upregulate BDNF expression, enhance neurite outgrowth, and induce antidepressant-like effects in preclinical models through modulation of monoaminergic signaling and hippocampal neurogenesis [8,9].

Erinacine A

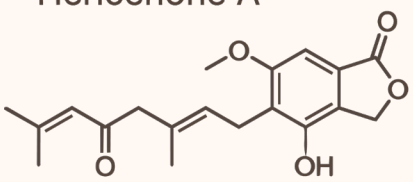


In addition to Erinacine A, other derivatives such as Erinacine C, D, E, and P have shown complementary effects on NGF signaling and oxidative stress pathways, collectively contributing to the mushroom's cognitive and neuroprotective potential [6,8].

Hericenones

Hericenones are aromatic compounds primarily found in the fruiting bodies of H. erinaceus [4,7]. They complement the erinacines by activating NGF synthesis through distinct intracellular signaling cascades, including the PI3K–Akt and MEK–ERK pathways, which play central roles in neuronal survival, differentiation, and synaptic plasticity [6,7].

Hericenone A



Through extensive strain screening and metabolomic profiling, Monterey Nutra identified a proprietary strain exhibiting unusually high levels of hericenones and hericenes, particularly those associated with elevated terpene synthesis. Independent analysis conducted by Twin Arbor Labs confirmed that this strain contains significantly higher hericene concentrations compared to baseline H. erinaceus fruiting body material commonly found on the market.

Hericenes

Hericenes, though less studied, represent an emerging class of potent neurotrophic metabolites. Preclinical evidence indicates that Hericene A enhances recognition memory and synaptic transmission at remarkably low doses [9]. The inclusion of over 50% fruiting body biomass in the ManeFocus™ blend substantially elevates the total terpene concentration and ensures a more complete representation of the natural neuroactive spectrum of the fungus.

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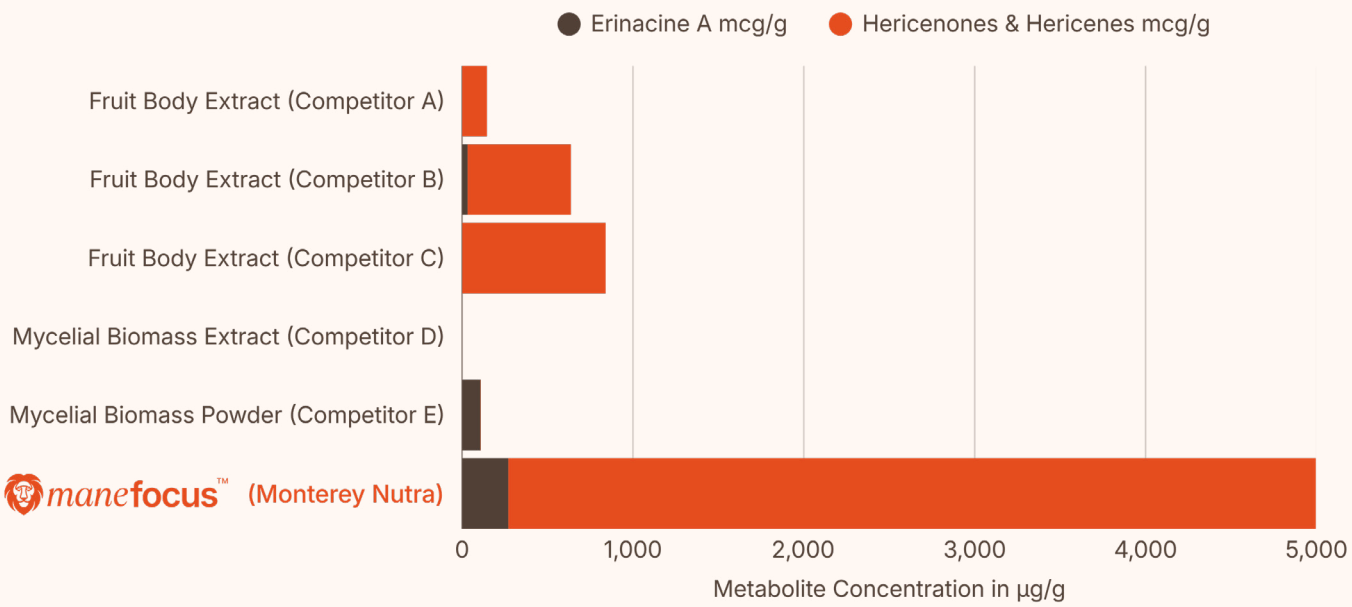
Total Metabolite Profile

By combining high-terpene fruiting bodies with optimized, erinacine-rich mycelium, ManeFocus achieves an exceptionally broad and potent metabolite profile.

The total quantified content of erinacines, hericenones, and hericenes exceeds 5 mg/g, verified by third-party analytical testing.

The metabolite profile of prominent brands of Lion's Mane products compared to ManeFocus:



For perspective, the next-highest commercial Lion's Mane ingredient analyzed by independent third-party testing contained less than 800 mcg/g, with many market samples falling below 100 mcg/g.

ManeFocus therefore represents an unparalleled improvement in total quantified neuroactives, establishing a new benchmark for standardization, consistency, and clinical relevance in Lion's Mane ingredients [11].

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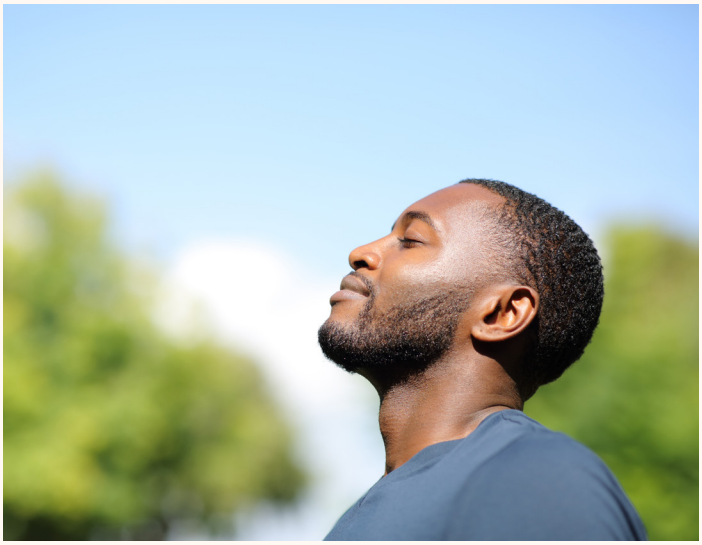
Mechanisms of Action

The bioactivity of ManeFocus is supported by multiple, complementary mechanisms spanning neurotrophic, neuroprotective, antioxidant, and microbiome-modulating pathways.



Neurotrophic & Neuroprotective Effects

Erinacines and hericenones are capable of crossing the blood–brain barrier and directly inducing NGF expression in neuronal cell models [7–10]. Erinacine A has further demonstrated the ability to upregulate BDNF and activate PI3K/Akt/GSK-3β signaling pathways central to mood regulation and neuroplasticity [9].

In human studies, supplementation with H. erinaceus has been associated with improved cognitive performance, including enhanced Stroop test outcomes and increased MMSE scores following 12–16 weeks of use [5,10,14]. These improvements are thought to result from enhanced neurotrophic signaling combined with reduced neuroinflammation.

Antioxidant & Anti-Inflammatory Pathways

H. erinaceus contains a wide range of antioxidant and anti-inflammatory molecules, including ergothioneine, glutathione, and phenolic compounds [1,15]. The use of antioxidant-rich sorghum substrates further enhances these properties by introducing 3-deoxyanthocyanins, rare polyphenols with high oxidative stability and redox potential [1].

Together, these compounds help mitigate mitochondrial dysfunction, reduce lipid peroxidation, and downregulate inflammatory signaling pathways implicated in neurodegeneration [15–17].

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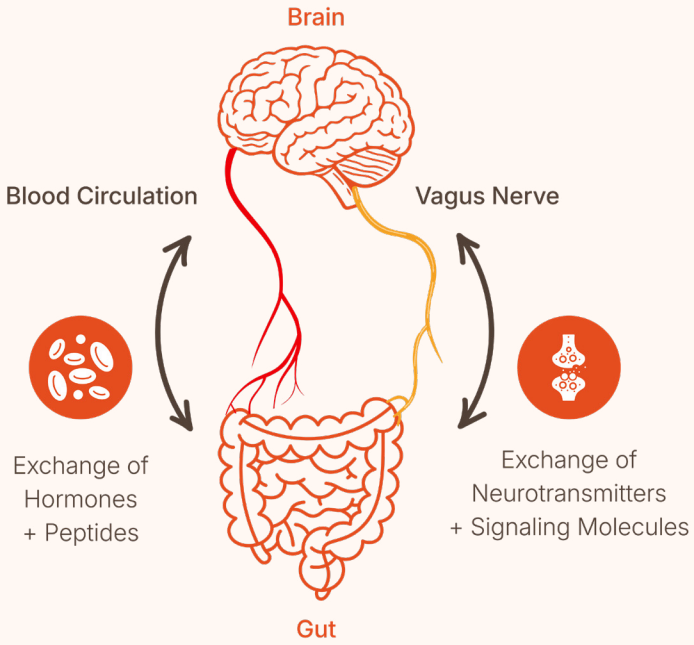
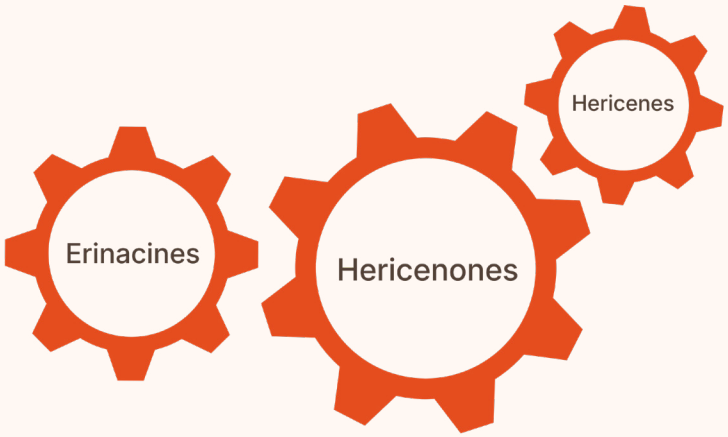
Gut–Brain Axis Modulation

Pilot human studies demonstrate that H. erinaceus supplementation increases gut microbiome alpha diversity and promotes short-chain fatty acid–producing bacteria, while reducing potentially pathogenic taxa [12,13].

These microbiome shifts are associated with reduced systemic inflammation and improved gut–brain signaling.



Multi-Compound Synergy



By integrating erinacine-rich mycelium with hericenone- and hericene-rich fruiting bodies, ManeFocus delivers a uniquely broad and balanced neuroactive profile that reflects both traditional whole-mushroom use and modern clinical science [4,11].

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Clinical Evidence Review

The clinical research base for Lion's Mane (Hericium erinaceus) is growing, with randomized controlled trials (RCTs) and pilot studies investigating its effects on cognition, mood, microbiome composition, and biomarkers of neuroplasticity [3–6,10–14].

Cognitive Function

Acute effects:
A double-blind, parallel-group pilot study in 41 healthy young adults found that a single 1.8 g dose of H. erinaceus powder significantly improved Stroop task performance 60 minutes post-administration compared to placebo [5].

Chronic effects:
In older adults (>50 years), 12 weeks of daily supplementation with 3.2 g of powdered fruiting body improved Mini-Mental State Examination (MMSE) scores compared to placebo [14].

Another trial in individuals with mild cognitive impairment demonstrated improved HDS-R scores at weeks 8–16, with a decline after washout, indicating potential reversible effects of supplementation [18].

Mood and Anxiety

A randomized trial in menopausal women (2 g/day delivered in cookies over 4 weeks) found significant reductions in anxiety and depression scores compared to placebo [10].

An 8-week Italian study in overweight adults reported improvements in mood and sleep parameters, alongside increased circulating pro-BDNF levels, suggesting an interaction between H. erinaceus supplementation and neurotrophic signaling pathways [15].

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Neuroplasticity Biomarkers

In a randomized, double-blind, placebo-controlled pilot study of healthy older adults, supplementation with 3.44 mg/day of erinacine A (derived from enriched H. erinaceus mycelium) significantly increased serum Brain-Derived Neurotrophic Factor (BDNF) levels relative to placebo, which showed a decline over the same intervention period [13].

These findings support a biological mechanism consistent with enhanced neuroplasticity and neuronal resilience.

Gut Microbiome Modulation

Short-term supplementation with H. erinaceus (1 g, three times daily for seven days) significantly increased gut microbiome alpha diversity and the abundance of short-chain fatty acid (SCFA)–producing bacteria, while reducing several potentially pathogenic taxa [12].

These microbiome shifts are consistent with improved gut–brain axis signaling and reduced systemic inflammation.

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Conclusion

Lion's Mane has moved from tradition into modern cognitive wellness, but the category still struggles with a core limitation: inconsistency. Too many commercial ingredients are built around unquantified actives or diluted biomass, which makes performance difficult to predict and even harder to formulate with confidence.

ManeFocus was developed to close that gap with an ingredient model that prioritizes measurement, not marketing. By combining proprietary strain selection, substrate optimization, and third-party metabolite quantification, ManeFocus delivers a repeatable neuroactive profile with total quantified erinacines, hericenones, and hericenes exceeding 5 mg/g.

Just as importantly, the formulation philosophy reflects how Lion's Mane actually works: complementary chemistries from distinct fungal components, assembled intentionally to capture a broader spectrum of activity than single-component approaches.

The scientific rationale for this approach is supported across multiple mechanisms relevant to cognitive performance and resilience, including neurotrophic signaling, antioxidant and anti-inflammatory activity, and gut–brain axis modulation.

The broader clinical literature on Hericium erinaceus continues to expand across cognition, mood, microbiome outcomes, and biomarkers of neuroplasticity, reinforcing the value of clinically aligned, standardized inputs for product development.

For formulators and brand teams seeking a Lion's Mane ingredient that is analytically validated, clinically grounded, and built for consistent real-world outcomes, ManeFocus sets a new benchmark for ingredient science in this category.

To request technical documentation, analytical data, or samples, please contact Monterey Nutra at sales@montereynutra.com

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*THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE, OR PREVENT ANY DISEASE.

manefocus™ Formulation Guide

Ingredient Positioning

ManeFocus™ is a dual-extracted, analytically standardized Lion's Mane (Hericium spp.) ingredient built for consistency in real-world product development. Standardization of 5mg/g of bioactive metabolites supports consistent performance across batches and formats.

ManeFocus is ideal for brands that need measurable differentiation in cognition-forward, mood-forward, or whole-system wellness formulas.

- Industry-Leading Potency
- Superior Solubility
- Neutral Taste

Suggested Dosage Framework

As an extract with leading standardized potency, ManeFocus performs at doses starting at just 200 mg and scales confidently up to 2,000 mg for more robust formulations.

Vegan · Certified ORGANIC · NON GMO · 3rd-Party TESTED · U.S. Grown

Delivery Formats

- Capsules / Tablets
- Ready-to-Mix Powders
- Gummies / Chews
- Functional Beverages
- Functional Foods

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Cultivate Possibility

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