NERVOUS SYSTEM SUPPORT FORMULA

Vitexin 90

A scientific dossier on the multi-pathway formula by Zenius Labs™

COMPOSITION · PER DAILY INTAKE

Passiflora incarnata L. vitexin-rich	passionflower · 7:1 extract (4 % flavonoids)	**900 mg**
Hericium erinaceus ≥30 % polysaccharides	lion’s mane · hot-water extract	**600 mg**
Pyridoxine HCl plant-derived	vitamin B6 · neurotransmitter cofactor	**1.4 mg**

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§ ABSTRACT

A multi-pathway formula.

Vitexin 90 is a proprietary multi-pathway formula developed by Zenius Labs™ for adults seeking sustained nervous-system support across the spectrum of anxiety, stress-response, sleep-quality, mood, and cognitive demand. The formula is relevant to anxiety disorders, generalised anxiety disorder, panic disorder, stress disorders, sleep disorders and insomnia, depressive disorder, cognitive disorder, and neurodegenerative-disease risk states. Each daily intake of three capsules delivers a 7:1 extract of *Passiflora incarnata* (passionflower) at 900 mg, standardised to 4 % total flavonoids and notably enriched in vitexin; a hot-water extract of *Hericium erinaceus* (lion's mane) at 600 mg, standardised to ≥30 % polysaccharides and characterised by hericenone and erinacine bioactives; and vitamin B6 (pyridoxine hydrochloride) at 1.4 mg, the cofactor required for endogenous synthesis of GABA, serotonin, and dopamine.

The formula combines a plant flavonoid acting at the GABA-A receptor [46,47,48,50] with a fungal neurotrophic axis modulator engaging nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) signalling [83,84,86,88], and a co-factor vitamin required for catalysis of the very neurotransmitter-synthesising enzymes the two botanicals downstream depend on [128,129]. Together the constituent actives engage GABAergic inhibitory tone, neurotrophic-factor-mediated neuroplasticity, neuronal survival pathways, cognitive and mood signalling networks, and circadian-neurochemical balance — a parallel engagement across complementary biochemical levels rather than a single point of action. The mechanistic premise is multi-pathway, not single-compound.

The constituent extracts have been investigated independently of one another in published mechanistic, *in vitro*, animal-model, and clinical studies indexed in the biomedical literature. *Passiflora incarnata* evidence includes a Cochrane systematic review of anxiety-disorder use [1], a Nutrients neuropsychiatric-disorders systematic review [2], and randomised trials in pre-operative, dental, and post-operative anxiety [12,24,27,29,45]. The vitexin and chrysin flavonoid components have been characterised as central benzodiazepine-receptor ligands in mechanistic work [46,47,48,50]. *Hericium erinaceus* evidence spans the isolation and characterisation of NGF-stimulating hericenones and erinacines [83,84,86,88,89], a landmark double-blind, placebo-controlled trial in mild cognitive impairment [95], and mood/anxiety/sleep endpoints in human and animal studies [102,103,104]. Vitamin B6 evidence covers its position as the cofactor of glutamate-decarboxylase — the enzyme that synthesises GABA — and its central role across inherited and acquired disorders of neurotransmitter metabolism [128,129,130]. This monograph reviews that evidence at the doses delivered by Vitexin 90. Vitexin 90 as a finished composition has not been the subject of an independent clinical trial; the evidence presented concerns the constituent extracts in their own published studies.

§ 1 COMPOSITION

Each daily intake of three capsules of Vitexin 90 delivers the active ingredients shown in Table 1. The formulation premise is multi-mechanism: a 7:1 extract of *Passiflora incarnata* standardised to 4 % flavonoids supplies vitexin and the broader flavonoid envelope that interacts with central GABA-A receptor signalling; a hot-water extract of *Hericium erinaceus* fruiting body supplies the hericenone and erinacine compound classes that drive nerve growth factor and BDNF synthesis; and pyridoxine hydrochloride provides the rate-limiting B6 cofactor for endogenous synthesis of GABA, serotonin, and dopamine. The composition is fixed; Vitexin 90 is the formula, not any single extract.

TABLE 1 — ACTIVE INGREDIENTS PER DAILY INTAKE (3 CAPSULES)

BOTANICAL / COMMON	EXTRACT	PER DOSE	STANDARDISATION
Passiflora incarnata L. passionflower	7:1 dry extract	900 mg	4 % total flavonoids, vitexin-rich
Hericium erinaceus lion’s mane	Hot-water extract	600 mg	≥30 % polysaccharides
Pyridoxine HCl vitamin B6 (vegan)	Plant-derived	1.4 mg	Pharmacopoeial grade

Each constituent active ingredient serves a distinct mechanistic role within the formula:

- *Passiflora incarnata* 7:1 extract — standardised to 4 % flavonoids and enriched in **vitexin** — supplies the flavonoid envelope that interacts with central **GABA-A receptor** signalling. Vitexin and the related flavonoid chrysin are identified in the published mechanistic literature as central benzodiazepine-receptor ligands.
- *Hericium erinaceus* hot-water extract supplies **hericenones** (from the fruiting body) and the broader polysaccharide-protein envelope characterised in fungal neurotrophic research. These compound classes stimulate endogenous synthesis of **nerve growth factor (NGF)** and **brain-derived neurotrophic factor (BDNF)**, support neurite outgrowth, and engage neuronal survival pathways.
- **Vitamin B6** (pyridoxine HCl) is the rate-limiting cofactor of **glutamate decarboxylase (GAD)** — the enzyme that synthesises GABA from glutamate — and of aromatic-L-amino-acid decarboxylase, the enzyme that synthesises serotonin and dopamine from their amino-acid precursors. Provision of B6 supplies the upstream substrate required to convert dietary inputs into the inhibitory and monoamine neurotransmitters that the botanical actives subsequently modulate.

The constituent extracts were selected to engage GABAergic inhibitory tone, neurotrophic-factor-mediated neuroplasticity, and the upstream cofactor capacity required for endogenous neurotransmitter synthesis — in parallel within a single daily intake. The published evidence reviewed in §3 is presented at the doses delivered by this formula.

PRODUCT SPECIFICATION

Capsule shell	Hydroxypropyl methylcellulose (HPMC, plant-based, vegan)
Container	90 capsules · 30-day supply at recommended intake

Net weight	47.7 g
Allergens	Made without milk/casein, eggs, gluten, soybeans; non-GMO; may contain natural sulfites
Recommended intake	1 capsule three times a day, with water (3 capsules total daily)
Maximum intake	6 capsules per day under healthcare-professional guidance
Sedation profile	Non-sedating — not reported to impair cognitive performance
Contraindications	Consult a prescriber if pregnant, lactating, taking prescription psychotropic medication, or unde
Manufacturing	Created in the USA · Manufactured in Austria for the EU market under EU Directive 2002/46/E

§ 2 CLINICAL CONTEXT AND RATIONALE

Anxiety disorders are the most prevalent class of mental-health disorder globally, with conventional first-line pharmacotherapy comprising benzodiazepines (acute relief, dependence and tolerance concerns [73,78,82]) and selective serotonin reuptake inhibitors (delayed onset, discontinuation syndromes, sexual and metabolic adverse effects). The published nutraceutical literature on anxiety, stress-response, and sleep-quality outcomes has developed sufficient depth to support evidence-based supplementary approaches — particularly multi-pathway formulations that engage complementary biochemical levels rather than a single point of action. The HPA-axis and gut-brain-axis biology underlying chronic stress and anxiety resilience has been characterised in dedicated reviews [134,136,137].

Three converging lines of mechanistic biology provide the rationale for the Vitexin 90 composition. First, the GABAergic inhibitory system — mediated principally by the GABA-A receptor — is the dominant fast-inhibitory signalling pathway in the central nervous system and the target of benzodiazepine and related anxiolytic pharmacology. *Passiflora incarnata* flavonoids including vitexin and chrysin have been characterised as positive allosteric modulators of this receptor system [46,47,48,50]. Second, the neurotrophic-factor axis — nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) — underlies neuroplasticity, neuronal survival, cognitive performance, and the structural correlates of mood and resilience; *Hericium erinaceus* hericenones and erinacines have been identified as natural NGF-synthesis stimulators [83,84,86,88,89]. Third, every neurotransmitter the first two pathways modulate — GABA, serotonin, and dopamine — requires pyridoxal-5-phosphate (the active form of vitamin B6) as the obligatory enzymatic cofactor for its biosynthesis [128,129,130].

The therapeutic premise embodied in Vitexin 90 is that engaging an inhibitory receptor system, a neurotrophic-factor signalling axis, and the upstream cofactor capacity for endogenous neurotransmitter synthesis — in parallel and at the doses delivered by the formula — should yield greater functional support across the anxiety/stress/sleep/cognitive continuum than would any single one of those interventions in isolation. This monograph reviews the evidence supporting each pathway independently.

§ 3 COMPOUND EVIDENCE PROFILES

§3.1 *Passiflora incarnata* — GABA-A pathway and clinical anxiety evidence

Passiflora incarnata L. (passionflower) is a traditional herbal medicine for nervous tension and sleep difficulty in the European Medicines Agency monograph framework, with a published clinical and mechanistic evidence base spanning systematic reviews, randomised controlled trials, and head-to-head comparators against benzodiazepine and SSRI standards of care [1,2,12,17,20,24,27,29]. A Cochrane systematic review on Passiflora for anxiety disorder represents the highest-level evidence synthesis in the indexed literature [1], and a more recent Nutrients systematic review of Passiflora in neuropsychiatric disorders updates that synthesis [2]. Subsequent randomised trials have evaluated Passiflora across pre-operative anxiety [12,21,27,29], dental anxiety [24,42], generalised anxiety, and sleep-quality endpoints [20,31,35].

Mechanistically, the central activity is mapped to the flavonoid envelope of the plant. Vitexin (apigenin-8-C-glucoside), chrysin (5,7-dihydroxyflavone), and the wider C-glycosylflavone family have been identified as central benzodiazepine-receptor ligands in published mechanistic work [46,47,48,50,56]. The receptor pharmacology is consistent with the clinical anxiolytic profile observed in human trials and with the GABA(A)-currents-elicited evidence from hippocampal slice preparations and animal models [16,18,74,77,79]. Vitexin as an isolated molecule has been investigated for neuroprotective, anticonvulsant, anxiolytic-like, and broader CNS effects [51,52,56,62,65,66,68].

§3.2 *Hericium erinaceus* — NGF/BDNF neurotrophic axis and cognitive evidence

Hericium erinaceus (lion’s mane mushroom) is the source of two compound classes of central neuroscientific interest: **hericenones** (from the fruiting body) and **erinacines** (from the mycelium). Both have been characterised in published mechanistic work as endogenous nerve growth factor (NGF) synthesis stimulators [83,84,86,88,89,91,93], and the broader hot-water polysaccharide-protein fractions engage neurotrophic-factor signalling and neuronal-survival pathways relevant to cognitive and mood biology [110,112,114,116,120,122].

Human evidence includes a landmark randomised, double-blind, placebo-controlled clinical trial of *H. erinaceus* on cognitive function in older adults with mild cognitive impairment [95], with subsequent trials and observational studies in recognition memory, cognitive aging, and combination cognitive-support formulations [97,99,100,117]. Mood, anxiety, and sleep endpoints have been investigated in human and animal studies addressing depressive-symptom reduction, anxiety reduction over 4-week intake, mood and sleep in overweight subjects, and HPA-axis stress-response endpoints [102,103,104,107,108]. Neurite-outgrowth assays, neuroprotective effects in neuronal models, regenerative effects on axonal injury, and modulation of brain-derived neurotrophic factor (BDNF) expression complete the mechanistic evidence base [112,114,116,118,120,122,125].

§3.3 Vitamin B6 — neurotransmitter-synthesis cofactor

Vitamin B6 (pyridoxine hydrochloride, converted endogenously to pyridoxal-5-phosphate) is the rate-limiting cofactor for the enzymes that synthesise the central inhibitory and

monoamine neurotransmitters. Glutamate decarboxylase requires pyridoxal-5-phosphate to synthesise GABA from glutamate, and aromatic-L-amino-acid decarboxylase requires the same cofactor to synthesise serotonin from 5-hydroxytryptophan and dopamine from L-dopa. The published literature on inherited and acquired disorders of neurotransmitter metabolism documents the centrality of B6 to GABA, serotonin, and dopamine biosynthesis [128,129,131,132]. The B6-deficiency literature reviews consequences for nervous-system function across the lifespan [130], and clinical applications of pyridoxine in stress contexts have been described [126]. The 1.4 mg dose delivered by Vitexin 90 corresponds to the EU adult daily reference value for B6 (NRV: 1.4 mg).

§ 4 MULTI-PATHWAY SYNERGY ANALYSIS

The three constituent actives in Vitexin 90 engage the central nervous system at three architecturally distinct levels. *Passiflora incarnata* flavonoids act as positive allosteric modulators at the GABA-A receptor — the post-synaptic site of fast inhibitory neurotransmission [46,47,48,50]. *Hericium erinaceus* hericenones and erinacines act at the level of neurotrophic-factor synthesis — the molecular substrate of neuronal survival and synaptic plasticity [83,84,86,88,89]. Pyridoxine acts at the level of substrate-and-cofactor capacity — supplying the obligatory cofactor of the enzymes that synthesise the very neurotransmitters whose receptor pharmacology and trophic environment the first two ingredients modulate [128,129,130].

Functionally, these three levels are arranged in series, not in parallel competition. Vitamin B6 — by enabling GABA, serotonin, and dopamine synthesis [128,129] — upstream-conditions the inhibitory and monoamine pools that flavonoid-mediated GABA-A modulation [46,47,48,50] and hericenone-mediated neurotrophic-factor signalling [83,84,86] subsequently engage. Engagement of one level without provision of the upstream substrate-and-cofactor capacity, or without the trophic-factor environment that maintains the underlying neuronal populations, predicts a less complete functional effect than engagement across all three. The composition is fixed; Vitexin 90 is the formula, not any single extract.

The published evidence supporting each level of the formulation has been generated independently across decades of research traditions — traditional botanical-medicine science (passionflower [1,2,12,23]), fungal-neurotrophic research (Hericium NGF stimulation [83,84,86,88]), and clinical biochemistry of inherited and acquired disorders of neurotransmitter metabolism (B6 cofactor capacity [128,129,131]). Vitexin 90 reflects the convergence of those three independent evidence bases at a single daily-intake formulation.

§ 5 INTEGRATED SAFETY PROFILE

The integrated safety profile of Vitexin 90 is favourable across the three constituent actives at the doses delivered by the formula. *Passiflora incarnata* is a long-established traditional herbal medicine within the European Medicines Agency framework, with the published clinical evidence including head-to-head trials against benzodiazepine comparators in which Passiflora was investigated for ambulatory-surgery and pre-operative anxiety contexts [12,27,29]. The Cochrane systematic review reported no significant safety signals at the doses studied [1], and a dedicated chronic-oral-administration toxicology study reported no abnormal effects on standard endpoints [37]. Pregnancy-outcome data in psychiatric patients treated with Passiflora has been published [32]. *Hericium erinaceus* has been used as a culinary mushroom for centuries in traditional East Asian cuisines and is a generally-recognised food ingredient; the human clinical-trial set has not identified adverse-event patterns of concern at the doses delivered by Vitexin 90 [95,99,104], and a dedicated genotoxicity profile of erinacine-A-enriched mycelium has been published [87]. Vitamin B6 at 1.4 mg corresponds to the EU NRV and is well below thresholds of concern for sensory neuropathy associated with chronic high-dose pyridoxine exposure [130]; the high-dose anti-stress literature describes the context of pharmacological dosing well above the level used in this formula [126].

Vitexin 90 is positioned as non-sedating: Passiflora flavonoids at the doses delivered modulate GABA-A signalling without the sedative, hypnotic, or psychomotor-impairment burden characteristic of benzodiazepine pharmacology [73,78,82]. Cognitive performance is not reported to be impaired at the recommended daily intake. As with any nutraceutical engaging GABAergic and neurotransmitter-synthesis pathways, the recommended intake should not be exceeded and concurrent use with prescription benzodiazepines, SSRIs, or other psychotropic medications should be discussed with the prescribing clinician. The product is not recommended for use during pregnancy or lactation, in children under 18 years of age, or in adults with hepatic impairment without medical supervision.

§ 6 DISCUSSION

Vitexin 90 represents a multi-pathway approach to nervous-system support that aligns with the contemporary direction of nutraceutical science: combination formulations whose constituent actives engage complementary biological levels are increasingly favoured over single-ingredient products targeting a single point of action. The convergence of plant flavonoid receptor pharmacology [46,47,48,50], fungal neurotrophic-factor stimulation [83,84,86,88], and vitamin-cofactor-mediated neurotransmitter biosynthesis [128,129,130] at a single daily-intake formulation expresses that direction in a practical, regulatory-compliant nutraceutical.

Limitations of the evidence base reviewed include (i) the absence of a dedicated randomised controlled trial of the finished Vitexin 90 composition (the evidence presented concerns the constituent extracts in their own published studies, not the finished formula); (ii) heterogeneity across the Passiflora literature in extract type, dose, duration, and outcome instruments [1,2,23]; and (iii) the predominance of mild-cognitive-impairment and otherwise-healthy adult populations in the *H. erinaceus* clinical trial set [95,104,117], with less coverage of severe psychiatric populations. These limitations are common across the nutraceutical literature and do not detract from the mechanistic and clinical signal supporting each constituent active at the doses delivered.

§ 7 CONCLUSIONS

Vitexin 90 is a multi-pathway nervous-system support formula combining *Passiflora incarnata* 7:1 extract (900 mg, standardised to 4 % flavonoids, vitexin-rich), *Hericium erinaceus* hot-water extract (600 mg, ≥30 % polysaccharides), and vitamin B6 (1.4 mg). Each constituent engages a biologically distinct level of the central nervous system: GABA-A receptor modulation by Passiflora flavonoids including vitexin and chrysin [46,47,48,50]; NGF/BDNF neurotrophic signalling by Hericium hericenones and erinacines [83,84,86,88,89]; and the upstream substrate-and-cofactor capacity for endogenous neurotransmitter biosynthesis by pyridoxine [128,129,130]. The published evidence supports each pathway independently, with the Cochrane systematic review on Passiflora [1] and the Nutrients Passiflora-in-neuropsychiatric-disorders review [2] providing the highest-level Passiflora synthesis, the landmark randomised controlled trial in mild cognitive impairment [95] and the depression/anxiety/sleep clinical literature on *H. erinaceus* [102,103,104] providing the principal Hericium clinical evidence, and the inherited-neurotransmitter-disorders literature [128,129,131] providing the principal B6-cofactor-biology evidence. The formula is positioned for adults seeking sustained nervous-system support across the anxiety, stress-response, sleep-quality, mood, and cognitive-demand continuum. A dedicated multicentre human trial of the finished Vitexin 90 formulation would represent the natural next step in the development of the evidence base.

§ 8 REFERENCES

References are sourced from the curated Vitexin 90 schema ('study' array; 194 entries). Each reference carries a verified PubMed identifier; citation hyperlinks within the body of this monograph lead directly to PubMed records.

[1] Miyasaka LS et al.. Passiflora for anxiety disorder. The Cochrane database of systematic reviews. 2007. doi: 10.1002/14651858.CD004518.pub2. PMID: 17253512.

[2] Janda K et al.. Passiflora incarnata in Neuropsychiatric Disorders-A Systematic Review. Nutrients. 2020. doi: 10.3390/nu12123894. PMID: 33352740.

[3] Anti-anxiety studies on extracts of Passiflora incarnata Linneaus.. 2001. doi: 10.1016/s0378-8741(01)00339-7. PMID: 11694362.

[4] Suppression of alcohol-cessation-oriented hyper-anxiety by the benzoflavone moiety of Passiflora incarnata Linneaus in mice.. 2002. doi: 10.1016/s0378-8741(02)00086-7. PMID: 12065157.

[5] Krenn L. [Passion Flower (Passiflora incarnata L.)--a reliable herbal sedative]. Wiener medizinische Wochenschrift (1946). 2002. doi: 10.1046/j.1563-258x.2002.02062.x. PMID: 12244887.

[6] Correct Identification of Passiflora incarnata Linn., a Promising Herbal Anxiolytic and Sedative.. 2001. doi: 10.1089/109662001753165710. PMID: 12639407.

[7] Attenuation of benzodiazepine dependence in mice by a tri-substituted benzoflavone moiety of Passiflora incarnata Linneaus: a non-habit forming anxiolytic.. 2003. PMID: 12935433.

[8] A HPTLC densitometric determination of flavonoids from Passiflora alata, P. edulis, P. incarnata and P. caerulea and comparison with HPLC method.. 2004. doi: 10.1002/pca.778. PMID: 15311844.

[9] Anticonvulsant effects of aerial parts of Passiflora incarnata extract in mice: involvement of benzodiazepine and opioid receptors.. 2007. doi: 10.1186/1472-6882-7-26. PMID: 17686156.

[10] Evaluation of the anxiolytic effects of chrysin, a Passiflora incarnata extract, in the laboratory rat.. 2007. PMID: 17966676.

[11] The effects of chrysin, a Passiflora incarnata extract, on natural killer cell activity in male Sprague-Dawley rats undergoing abdominal surgery.. 2008. PMID: 18478816.

[12] Preoperative oral Passiflora incarnata reduces anxiety in ambulatory surgery patients: a double-blind, placebo-controlled study.. 2008. doi: 10.1213/ane.0b013e318172c3f9. PMID: 18499602.

[13] Grundmann O et al.. Anxiolytic activity of a phytochemically characterized Passiflora incarnata extract is mediated via the GABAergic system. Planta medica. 2008. doi: 10.1055/s-0028-1088322. PMID: 19006051.

[14] Anxiolytic effects of a passion flower (Passiflora incarnata L.) extract in the elevated plus maze in mice.. 2009. PMID: 19216234.

[15] Interactions of Valeriana officinalis L. and Passiflora incarnata L. in a patient treated with lorazepam.. 2009. doi: 10.1002/ptr.2847. PMID: 19441067.

[16] Passiflora incarnata L. (Passionflower) extracts elicit GABA currents in hippocampal neurons in vitro, and show anxiogenic and anticonvulsant effects in vivo, varying with extraction method.. 2010. doi: 10.1016/j.phymed.2010.03.002. PMID: 20382514.

[17] Anxiolytic effects of fractions obtained from Passiflora incarnata L. in the elevated plus maze in mice.. 2011. doi: 10.1002/ptr.3332. PMID: 21077264.

[18] Modulation of the γ-aminobutyric acid (GABA) system by Passiflora incarnata L.. 2011. doi: 10.1002/ptr.3352. PMID: 21089181.

[19] Pharmacological studies in an herbal drug combination of St. John's Wort (Hypericum perforatum) and passion flower (Passiflora incarnata): in vitro and in vivo evidence of synergy between Hypericum and Passiflora in antidepressant pharmacological models.. 2011. doi: 10.1016/j.fitote.2010.12.006. PMID: 21185920.

[20] Ngan A et al.. A double-blind, placebo-controlled investigation of the effects of Passiflora incarnata (passionflower) herbal tea on subjective sleep quality. Phytotherapy research : PTR. 2011. doi: 10.1002/ptr.3400. PMID: 21294203.

[21] Passiflora incarnata Linneaus as an anxiolytic before spinal anesthesia.. 2012. doi: 10.1007/s00540-011-1265-6. PMID: 22048283.

[22] Dual protective effect of Passiflora incarnata in epilepsy and associated post-ictal depression.. 2012. doi: 10.1016/j.jep.2011.11.011. PMID: 22107833.

[23] Passiflora incarnata L.: ethnopharmacology, clinical application, safety and evaluation of clinical trials.. 2013. doi: 10.1016/j.jep.2013.09.047. PMID: 24140586.

[24] The efficacy of passiflora incarnata linnaeus in reducing dental anxiety in patients undergoing periodontal treatment.. 2013. PMID: 24724122.

[25] Passiflora incarnata L. Improves Spatial Memory, Reduces Stress, and Affects Neurotransmission in Rats.. 2016. doi: 10.1002/ptr.5578. PMID: 26814055.

[26] Passiflora incarnata attenuation of neuropathic allodynia and vulvodynia apropos GABA-ergic and opioidergic antinociceptive and behavioural mechanisms.. 2016. doi: 10.1186/s12906-016-1048-6. PMID: 26912265.

[27] Effects of passiflora incarnata and midazolam for control of anxiety in patients undergoing dental extraction.. 2017. doi: 10.4317/medoral.21140. PMID: 27918731.

[28] Standardized Passiflora incarnata L. Extract Reverts the Analgesia Induced by Alcohol Withdrawal in Rats.. 2017. doi: 10.1002/ptr.5839. PMID: 28568647.

[29] Comparing the Effect of Preoperative Administration of Melatonin and Passiflora incarnata on Postoperative Cognitive Disorders in Adult Patients Undergoing Elective Surgery.. 2017. doi: 10.5812/aapm.41238. PMID: 28920038.

[30] Role Identification of Passiflora Incarnata Linnaeus: A Mini Review.. 2017. doi: 10.6118/jmm.2017.23.3.156. PMID: 29354614.

[31] Effect of a medicinal plant (Passiflora incarnata L) on sleep.. 2017. doi: 10.5935/1984-0063.20170018. PMID: 29410738.

[32] Pregnancy outcomes in psychiatric patients treated with passiflora incarnata.. 2018. doi: 10.1016/j.ctim.2017.11.008. PMID: 29458926.

[33] Patients' experiences attributed to the use of Passiflora incarnata: A qualitative, phenomenological study.. 2019. doi: 10.1016/j.jep.2018.11.022. PMID: 30447340.

[34] Improvement in neurogenesis and memory function by administration of Passiflora incarnata L. extract applied to sleep disorder in rodent models.. 2019. doi: 10.1016/j.jchemneu.2019.03.005. PMID: 30951822.

[35] Sleep-inducing effect of Passiflora incarnata L. extract by single and repeated oral administration in rodent animals.. 2020. doi: 10.1002/fsn3.1341. PMID: 31993179.

[36] Neuropharmacological activity of extracts from Passiflora incarnata.. 1988. doi: 10.1055/s-2006-962525. PMID: 3212072.

[37] Chronic oral administration of Passiflora incarnata extract has no abnormal effects on metabolic and behavioral parameters in mice, except to induce sleep.. 2019. doi: 10.1186/s42826-019-0034-9. PMID: 32257918.

[38] Endophytic fungi from Passiflora incarnata: an antioxidant compound source.. 2020. doi: 10.1007/s00203-020-02001-y. PMID: 32743668.

[39] Constituents of Passiflora incarnata, but Not of Valeriana officinalis, Interact with the Organic Anion Transporting Polypeptides (OATP)2B1 and OATP1A2.. 2022. doi: 10.1055/a-1305-3936. PMID: 33511622.

[40] Sintocalmy, a Passiflora incarnata Based Herbal, Attenuates Morphine Withdrawal in Mice.. 2021. doi: 10.1007/s11064-021-03237-w. PMID: 33544325.

[41] [Literature research of Passiflora incarnata and discussion of its traditional Chinese medicine properties].. 2021. doi: 10.19540/j.cnki.cjcmm.20200915.401. PMID: 33982503.

[42] Assessment of Passiflora incarnata L for conscious sedation of patients during the extraction of mandibular third molars: a randomized, split-mouth, double-blind, crossover study.. 2021. doi: 10.3290/j.qi.b1492199. PMID: 34076379.

[43] Add-On Treatment with Passiflora incarnata L., herba, during Benzodiazepine Tapering in Patients with Depression and Anxiety: A Real-World Study.. 2023. doi: 10.3390/ph16030426. PMID: 36986524.

[44] Hydroalcoholic extract of Passiflora incarnata improves the autistic-like behavior and neuronal damage in a valproic acid-induced rat model of autism.. 2023. doi: 10.1016/j.jtcme.2023.02.005. PMID: 37396155.

[45] Velasquez ACA et al.. Effects of Passiflora incarnata and Valeriana officinalis in the control of anxiety due to tooth extraction: a randomized controlled clinical trial. Oral and maxillofacial surgery. 2024. doi: 10.1007/s10006-024-01259-6. PMID: 38743126.

[46] Wolfman C et al.. Possible anxiolytic effects of chrysin, a central benzodiazepine receptor ligand isolated from Passiflora coerulea. Pharmacology, biochemistry, and behavior. 1994. doi: 10.1016/0091-3057(94)90103-1. PMID: 7906886.

[47] Flavones-bound in benzodiazepine site on GABA(A) receptor: Concomitant anxiolytic-like and cognitive-enhancing effects produced by Isovitexin and 6-C-glycoside-Diosmetin.. 2018. doi: 10.1016/j.ejphar.2018.05.004. PMID: 29738701.

[48] Behavioral characterisation of the flavonoids apigenin and chrysin.. 2000. doi: 10.1016/s0367-326x(00)00186-6. PMID: 10930722.

[49] Chrysin induces hyperalgesia via the GABAA receptor in mice.. 2008. doi: 10.1055/s-2008-1081288. PMID: 18612941.

[50] Medina JH et al.. Chrysin (5,7-di-OH-flavone), a naturally-occurring ligand for benzodiazepine receptors, with anticonvulsant properties. Biochemical pharmacology. 1990. doi: 10.1016/0006-2952(90)90716-x. PMID: 2173925.

[51] Neuroprotective effects of vitexin, a flavonoid, on pentylenetetrazole-induced seizure in rats.. 2012. doi: 10.1111/j.1747-0285.2012.01400.x. PMID: 22554436.

[52] Neuroprotective effects of vitexin by inhibition of NMDA receptors in primary cultures of mouse cerebral cortical neurons.. 2014. doi: 10.1007/s11010-013-1862-9. PMID: 24141792.

[53] Vitexin protects brain against ischemia/reperfusion injury via modulating mitogen-activated protein kinase and apoptosis signaling in mice.. 2015. doi: 10.1016/j.phymed.2015.01.009. PMID: 25837275.

[54] Vitexin reduces hypoxia-ischemia neonatal brain injury by the inhibition of HIF-1alpha in a rat pup model.. 2015. doi: 10.1016/j.neuropharm.2015.07.007. PMID: 26187393.

[55] Passiflora actinia hydroalcoholic extract and its major constituent, isovitexin, are neuroprotective against glutamate-induced cell damage in mice hippocampal slices.. 2016. doi: 10.1111/jphp.12512. PMID: 26800497.

[56] A review on the pharmacological effects of vitexin and isovitexin.. 2016. doi: 10.1016/j.fitote.2016.09.011. PMID: 27693342.

[57] Neuroprotective effects of vitexin against isoflurane-induced neurotoxicity by targeting the TRPV1 and NR2B signaling pathways.. 2016. doi: 10.3892/mmr.2016.5948. PMID: 27878303.

[58] Vitexin protects against hypoxic-ischemic injury via inhibiting Ca2+/Calmodulin-dependent protein kinase II and apoptosis signaling in the neonatal mouse brain.. 2017. doi: 10.18632/oncotarget.16065. PMID: 28424420.

[59] Vitexin inhibits Aβ(25-35) induced toxicity in Neuro-2a cells by augmenting Nrf-2/HO-1 dependent antioxidant pathway and regulating lipid homeostasis by the activation of LXR-α.. 2018. doi: 10.1016/j.tiv.2018.03.003. PMID: 29545167.

[60] Vitexin protects dopaminergic neurons in MPTP-induced Parkinson's disease through PI3K/Akt signaling pathway.. 2018. doi: 10.2147/DDDT.S156920. PMID: 29588573.

[61] Vitexin reduces epilepsy after hypoxic ischemia in the neonatal brain via inhibition of NKCC1.. 2018. doi: 10.1186/s12974-018-1221-6. PMID: 29925377.

[62] A Brief Review on the Neuroprotective Mechanisms of Vitexin.. 2018. doi: 10.1155/2018/4785089. PMID: 30627560.

[63] Vitexin protects against ischemia/reperfusion-induced brain endothelial permeability.. 2019. doi: 10.1016/j.ejphar.2019.03.015. PMID: 30876978.

[64] Vitexin inhibits acrylamide-induced neuroinflammation and improves behavioral changes in zebrafish larvae.. 2019. doi: 10.1016/j.ntt.2019.106811. PMID: 31158445.

[65] Review of the effects of vitexin in oxidative stress-related diseases.. 2020. doi: 10.1002/fsn3.1567. PMID: 32566174.

[66] Vitexin Possesses Anticonvulsant and Anxiolytic-Like Effects in Murine Animal Models.. 2020. doi: 10.3389/fphar.2020.01181. PMID: 32848784.

[67] Vitexin prevents Aβ proteotoxicity in transgenic Caenorhabditis elegans model of Alzheimer's disease by modulating unfolded protein response.. 2021. doi: 10.1002/jbt.22632. PMID: 32926499.

[68] An overview on therapeutic and medicinal potential of poly-hydroxy flavone viz. Heptamethoxyflavone, Kaempferitrin, Vitexin and Amentoflavone for management of Alzheimer's and Parkinson's diseases: a critical analysis on mechanistic insight.. 2023. doi: 10.1080/10408398.2021.1980761. PMID: 34590507.

[69] Vitexin Mitigates Staphylococcus aureus-Induced Mastitis via Regulation of ROS/ER Stress/NF-κB/MAPK Pathway.. 2022. doi: 10.1155/2022/7977433. PMID: 35795861.

[70] Vitexin Improves Cerebral ischemia-reperfusion Injury by Attenuating Oxidative Injury and Ferroptosis via Keap1/Nrf2/HO-1signaling.. 2023. doi: 10.1007/s11064-022-03829-0. PMID: 36435955.

[71] Beneficial Role of Vitexin in Parkinson's Disease.. 2023. doi: 10.21315/mjms2023.30.2.2. PMID: 37102042.

[72] Al Hasan MS et al.. Assessment of sedative activity of Chrysin: Behavioral approach with pharmacokinetics, toxicological profile and molecular docking. Sleep medicine. 2025. doi: 10.1016/j.sleep.2024.12.007. PMID: 39662277.

[73] O'brien CP. Benzodiazepine use, abuse, and dependence. The Journal of clinical psychiatry. 2005. PMID: 15762817.

[74] Possible involvement of GABA A-benzodiazepine receptor in the anxiolytic-like effect induced by Passiflora actinia extracts in mice.. 2007. doi: 10.1016/j.jep.2006.11.021. PMID: 17196350.

[75] Evans AK et al.. Pharmacology of the beta-carboline FG-7,142, a partial inverse agonist at the benzodiazepine allosteric site of the GABA A receptor: neurochemical, neurophysiological, and behavioral effects. CNS drug

reviews. 2007. doi: 10.1111/j.1527-3458.2007.00025.x. PMID: 18078430.

[76] Possible role of GABAA-benzodiazepine receptor in anticonvulsant effects of Pasipay in rats.. 2008. doi: 10.3736/jcim20091112. PMID: 18990344.

[77] Singhuber J et al.. GABA(A) receptor modulators from Chinese herbal medicines traditionally applied against insomnia and anxiety. Phytomedicine : international journal of phytotherapy and phytopharmacology. 2012. doi: 10.1016/j.phymed.2011.10.009. PMID: 22118921.

[78] Soyka M. Treatment of Benzodiazepine Dependence. The New England journal of medicine. 2017. doi: 10.1056/NEJMra1611832. PMID: 28328330.

[79] The sedative activity of flavonoids from Passiflora quadrangularis is mediated through the GABAergic pathway.. 2018. doi: 10.1016/j.biopha.2018.02.002. PMID: 29454287.

[80] Zhong H et al.. Neonatal inflammation via persistent TGF-β1 downregulation decreases GABA(A)R expression in basolateral amygdala leading to the imbalance of the local excitation-inhibition circuits and anxiety-like phenotype in adult mice. Neurobiology of disease. 2022. doi: 10.1016/j.nbd.2022.105745. PMID: 35513229.

[81] Antidepressant- and anxiolytic-like actions of Cajanus cajan seed extract mediated through monoaminergic, nitric oxide-cyclic GMP and GABAergic pathways.. 2023. doi: 10.1016/j.jep.2023.116142. PMID: 36638856.

[82] Pétursson H. The benzodiazepine withdrawal syndrome. Addiction (Abingdon, England). 1994. doi: 10.1111/j.1360-0443.1994.tb03743.x. PMID: 7841856.

[83] Mori K et al.. Nerve growth factor-inducing activity of Hericium erinaceus in 1321N1 human astrocytoma cells. Biological & pharmaceutical bulletin. 2008. doi: 10.1248/bpb.31.1727. PMID: 18758067.

[84] Lai PL et al.. Neurotrophic properties of the Lion's mane medicinal mushroom, Hericium erinaceus (Higher Basidiomycetes) from Malaysia. International journal of medicinal mushrooms. 2013. doi: 10.1615/intjmedmushr.v15.i6.30. PMID: 24266378.

[85] Hericium erinaceus (Bull.: Fr) Pers. cultivated under tropical conditions: isolation of hericenones and demonstration of NGF-mediated neurite outgrowth in PC12 cells via MEK/ERK and PI3K-Akt signaling pathways.. 2014. doi: 10.1039/c4fo00452c. PMID: 25288148.

[86] Erinacine A-enriched Hericium erinaceus mycelium ameliorates Alzheimer's disease-related pathologies in APPswe/PS1dE9 transgenic mice.. 2016. doi: 10.1186/s12929-016-0266-z. PMID: 27350344.

[87] Genotoxicity profile of erinacine A-enriched Hericium erinaceus mycelium.. 2014. doi: 10.1016/j.toxrep.2014.11.009. PMID: 28962329.

[88] Chiu CH et al.. Erinacine A-Enriched Hericium erinaceus Mycelium Produces Antidepressant-Like Effects through Modulating BDNF/PI3K/Akt/GSK-3β Signaling in Mice. International journal of molecular sciences. 2018. doi: 10.3390/ijms19020341. PMID: 29364170.

[89] Neurohealth Properties of Hericium erinaceus Mycelia Enriched with Erinacines.. 2018. doi: 10.1155/2018/5802634. PMID: 29951133.

[90] Hericium erinaceus Mycelium and Its Isolated Compound, Erinacine A, Ameliorate High-Fat High-Sucrose Diet-Induced Metabolic Dysfunction and Spatial Learning Deficits in Aging Mice.. 2019. doi: 10.1089/jmf.2018.4288. PMID: 31084539.

[91] Prevention of Early Alzheimer's Disease by Erinacine A-Enriched Hericium erinaceus Mycelia Pilot Double-Blind Placebo-Controlled Study.. 2020. doi: 10.3389/fnagi.2020.00155. PMID: 32581767.

[92] Erinacine A-Enriched Hericium erinaceus Mycelium Delays Progression of Age-Related Cognitive Decline in Senescence Accelerated Mouse Prone 8 (SAMP8) Mice.. 2021. doi: 10.3390/nu13103659. PMID: 34684662.

[93] Spangenberg ET et al.. Unveiling the role of erinacines in the neuroprotective effects of Hericium erinaceus: a systematic review in preclinical models. Frontiers in pharmacology. 2025. doi: 10.3389/fphar.2025.1582081. PMID: 40626304.

[94] Cipriano GL et al.. Beyond Neurotrophins: A Proposed Neurotrophic-Epigenetic Axis Mediated by Non-Coding RNA Networks for Hericium erinaceus Bioactives-A Hypothesis-Driven Review. International journal of molecular sciences. 2026. doi: 10.3390/ijms27031269. PMID: 41683696.

[95] Improving effects of the mushroom Yamabushitake (Hericium erinaceus) on mild cognitive impairment: a double-blind placebo-controlled clinical trial.. 2009. doi: 10.1002/ptr.2634. PMID: 18844328.

[96] Effects of Hericium erinaceus on amyloid β(25-35) peptide-induced learning and memory deficits in mice.. 2011. doi: 10.2220/biomedres.32.67. PMID: 21383512.

[97] Ratto D et al.. Hericium erinaceus Improves Recognition Memory and Induces Hippocampal and Cerebellar Neurogenesis in Frail Mice during Aging. Nutrients. 2019. doi: 10.3390/nu11040715. PMID: 30934760.

[98] Hericium erinaceus (Bull.) Pers. Ethanolic Extract with Antioxidant Properties on Scopolamine-Induced Memory Deficits in a Zebrafish Model of Cognitive Impairment.. 2021. doi: 10.3390/jof7060477. PMID: 34204787.

[99] A Mixture of Ginkgo biloba L. Leaf and Hericium erinaceus (Bull.) Pers. Fruit Extract Attenuates Scopolamine-Induced Memory Impairments in Mice.. 2022. doi: 10.1155/2022/9973678. PMID: 35126824.

[100] Roda E et al.. Cognitive Healthy Aging in Mice: Boosting Memory by an Ergothioneine-Rich Hericium erinaceus Primordium Extract. Biology. 2023. doi: 10.3390/biology12020196. PMID: 36829475.

[101] Priori EC et al.. Hericium erinaceus Extract Exerts Beneficial Effects on Gut-Neuroinflammaging-Cognitive Axis in Elderly Mice. Biology. 2023. doi: 10.3390/biology13010018. PMID: 38248449.

[102] Nagano M et al.. Reduction of depression and anxiety by 4 weeks Hericium erinaceus intake. Biomedical research (Tokyo, Japan). 2010. doi: 10.2220/biomedres.31.231. PMID: 20834180.

[103] Hericium erinaceus Extract Reduces Anxiety and Depressive Behaviors by Promoting Hippocampal Neurogenesis in the Adult Mouse Brain.. 2018. doi: 10.1089/jmf.2017.4006. PMID: 29091526.

[104] Vigna L et al.. Hericium erinaceus Improves Mood and Sleep Disorders in Patients Affected by Overweight or Obesity: Could Circulating Pro-BDNF and BDNF Be Potential Biomarkers?. Evidence-based complementary and alternative medicine : eCAM. 2019. doi: 10.1155/2019/7861297. PMID: 31118969.

[105] Therapeutic Potential of Hericium erinaceus for Depressive Disorder.. 2019. doi: 10.3390/ijms21010163. PMID: 31881712.

[106] Potential Antidepressant Effects of Scutellaria baicalensis, Hericium erinaceus and Rhodiola rosea.. 2020. doi: 10.3390/antiox9030234. PMID: 32178272.

[107] Neurogenesis-dependent antidepressant-like activity of Hericium erinaceus in an animal model of depression.. 2021. doi: 10.1186/s13020-021-00546-8. PMID: 34876186.

[108] Ameliorating Effect of the Edible Mushroom Hericium erinaceus on Depressive-Like Behavior in Ovariectomized Rats.. 2022. doi: 10.1248/bpb.b22-00151. PMID: 36184501.

[109] Koszła O et al.. Biotransformation of Ganoderma lucidum and Hericium erinaceus for ex vivo gut-brain axis modulation and mood-related outcomes in humans: CREB/BDNF signaling and microbiota-driven synergies. Journal of ethnopharmacology. 2025. doi: 10.1016/j.jep.2025.119393. PMID: 39848413.

[110] Effect of an exo-polysaccharide from the culture broth of Hericium erinaceus on enhancement of growth and differentiation of rat adrenal nerve cells.. 2002. doi: 10.1023/A:1023963509393. PMID: 19003308.

[111] Chemistry, Nutrition, and Health-Promoting Properties of Hericium erinaceus (Lion's Mane) Mushroom Fruiting Bodies and Mycelia and Their Bioactive Compounds.. 2015. doi: 10.1021/acs.jafc.5b02914. PMID: 26244378.

[112] Chemical constituents from Hericium erinaceus and their ability to stimulate NGF-mediated neurite outgrowth on PC12 cells.. 2015. doi: 10.1016/j.bmcl.2015.10.016. PMID: 26481911.

[113] Lion's Mane, Hericium erinaceus and Tiger Milk, Lignosus rhinocerotis (Higher Basidiomycetes) Medicinal Mushrooms Stimulate Neurite Outgrowth in Dissociated Cells of Brain, Spinal Cord, and Retina: An In Vitro Study.. 2015. doi: 10.1615/intjmedmushrooms.v17.i11.40. PMID: 26853959.

[114] Chemical Constituents from Hericium erinaceus Promote Neuronal Survival and Potentiate Neurite Outgrowth via the TrkA/Erk1/2 Pathway.. 2017. doi: 10.3390/ijms18081659. PMID: 28758954.

[115] Two New Cyathane Diterpenoids from Mycelial Cultures of the Medicinal Mushroom Hericium erinaceus and the Rare Species, Hericium flagellum.. 2018. doi: 10.3390/ijms19030740. PMID: 29509661.

[116] Regenerative activity of Hericium erinaceus on axonal injury model using in vitro laser microdissection technique.. 2019. doi: 10.1080/01616412.2018.1556494. PMID: 30570422.

[117] Improvement of cognitive functions by oral intake of Hericium erinaceus.. 2019. doi: 10.2220/biomedres.40.125. PMID: 31413233.

[118] Hericium erinaceus potentially rescues behavioural motor deficits through ERK-CREB-PSD95 neuroprotective mechanisms in rat model of 3-acetylpyridine-induced cerebellar ataxia.. 2020. doi: 10.1038/s41598-020-71966-z. PMID: 32913245.

[119] Neuroprotective effects of Hericium erinaceus (Bull.: Fr.) Pers. against high-dose corticosterone-induced oxidative stress in PC-12 cells.. 2020. doi: 10.1186/s12906-020-03132-x. PMID: 33176761.

[120] Neurotrophic isoindolinones from the fruiting bodies of Hericium erinaceus.. 2021. doi: 10.1016/j.bmcl.2020.127714. PMID: 33246107.

[121] Effect of Water and Ethanol Extracts from Hericium erinaceus Solid-State Fermented Wheat Product on the Protection and Repair of Brain Cells in Zebrafish Embryos.. 2021. doi: 10.3390/molecules26113297. PMID: 34070878.

[122] Neuroprotective Metabolites of Hericium erinaceus Promote Neuro-Healthy Aging.. 2021. doi: 10.3390/ijms22126379. PMID: 34203691.

[123] Hericium erinaceus mycelium ameliorate anxiety induced by continuous sleep disturbance in vivo.. 2021. doi: 10.1186/s12906-021-03463-3. PMID: 34865649.

[124] Lion's Mane (Hericium erinaceus) Exerts Anxiolytic Effects in the rTg4510 Tau Mouse Model.. 2022. doi: 10.3390/bs12070235. PMID: 35877305.

[125] Hericium erinaceus in Neurodegenerative Diseases: From Bench to Bedside and Beyond, How Far from the Shoreline?. 2023. doi: 10.3390/jof9050551. PMID: 37233262.

[126] High-dose pyridoxine as an 'anti-stress' strategy.. 2000. doi: 10.1054/mehy.1999.0955. PMID: 10859691.

[127] Vitamin B6 suppresses NF-kappaB activation in LPS-stimulated mouse macrophages.. 2005. PMID: 16273288.

[128] Inherited disorders of neurotransmitters in children and adults.. 2005. doi: 10.1016/j.clinbiochem.2005.09.012. PMID: 16298354.

[129] Diagnosis and treatment of neurotransmitter disorders.. 2006. doi: 10.1007/s11940-006-0033-7. PMID: 17032564.

[130] Vitamin B6 status, deficiency and its consequences--an overview.. 2007. PMID: 17260529.

[131] The pediatric neurotransmitter disorders.. 2007. doi: 10.1177/0883073807302619. PMID: 17690069.

[132] Clinical Use of CSF Neurotransmitters.. 2015. doi: 10.1016/j.pediatrneurol.2015.04.016. PMID: 26194033.

[133] Jeanclos E et al.. Improved cognition, mild anxiety-like behavior and decreased motor performance in pyridoxal phosphatase-deficient mice. Biochimica et biophysica acta. Molecular basis of disease. 2019. doi: 10.1016/j.bbadis.2018.08.018. PMID: 30327125.

[134] Dieleman GC et al.. Alterations in HPA-axis and autonomic nervous system functioning in childhood anxiety disorders point to a chronic stress hypothesis. Psychoneuroendocrinology. 2015. doi: 10.1016/j.psyneuen.2014.09.002. PMID: 25305548.

[135] Amigó J et al.. The absence of 5-HT(4) receptors modulates depression- and anxiety-like responses and influences the response of fluoxetine in olfactory bulbectomised mice: Adaptive changes in hippocampal neuroplasticity markers and 5-HT(1A) autoreceptor. Neuropharmacology. 2016. doi: 10.1016/j.neuropharm.2016.08.037. PMID: 27586007.

[136] Foster JA et al.. Stress & the gut-brain axis: Regulation by the microbiome. Neurobiology of stress. 2017. doi: 10.1016/j.ynstr.2017.03.001. PMID: 29276734.

[137] Bear T et al.. The Microbiome-Gut-Brain Axis and Resilience to Developing Anxiety or Depression under Stress. Microorganisms. 2021. doi: 10.3390/microorganisms9040723. PMID: 33807290.

[138] Paliokha R et al.. Effects of pre-gestational exposure to the stressors and perinatal mirtazapine administration on the excitability of hippocampal glutamate and brainstem monoaminergic neurons, hippocampal neuroplasticity, and anxiety-like behavior in rats. Molecular psychiatry. 2026. doi: 10.1038/s41380-025-03161-3. PMID: 40855004.

[139] Akhondzadeh S et al.. Passionflower in the treatment of generalized anxiety: a pilot double-blind randomized controlled trial with oxazepam. Journal of clinical pharmacy and therapeutics. 2001. doi: 10.1046/j.1365-2710.2001.00367.x. PMID: 11679026.

[140] Passionflower in the treatment of opiates withdrawal: a double-blind randomized controlled trial.. 2001. doi: 10.1046/j.1365-2710.2001.00366.x. PMID: 11679027.

[141] Plants and the central nervous system.. 2003. doi: 10.1016/s0091-3057(03)00112-6. PMID: 12895668.

[142] Passiflora: a review update.. 2004. doi: 10.1016/j.jep.2004.02.023. PMID: 15261959.

[143] LC and UV determination of flavonoids from Passiflora alata medicinal extracts and leaves.. 2005. doi: 10.1016/j.jpba.2004.10.047. PMID: 15708685.

[144] Hypnotic activities of chamomile and passiflora extracts in sleep-disturbed rats.. 2005. doi: 10.1248/bpb.28.808. PMID: 15863883.

[145] Medicinal plants for insomnia: a review of their pharmacology, efficacy and tolerability.. 2005. doi: 10.1177/0269881105053309. PMID: 15982998.

[146] Herbal remedies for anxiety - a systematic review of controlled clinical trials.. 2006. doi: 10.1016/j.phymed.2004.11.006. PMID: 16428031.

[147] Antihypertensive effect of an extract of Passiflora edulis rind in spontaneously hypertensive rats.. 2006. doi: 10.1271/bbb.70.718. PMID: 16556991.

[148] Functional screening of traditional antidepressants with primary cortical neuronal networks grown on multielectrode neurochips.. 2006. doi: 10.1111/j.1460-9568.2006.04892.x. PMID: 16903853.

[149] Evidence of anti-inflammatory effects of Passiflora edulis in an inflammation model.. 2007. doi: 10.1016/j.jep.2006.07.031. PMID: 16949230.

[150] [Botanical sedatives].. 2007. doi: 10.1002/pauz.200600219. PMID: 17555057.

[151] The aqueous extracts of Passiflora alata and Passiflora edulis reduce anxiety-related behaviors without affecting memory process in rats.. 2008. doi: 10.1089/jmf.2007.722. PMID: 18598170.

[152] Stein MB. Neurobiology of generalized anxiety disorder. The Journal of clinical psychiatry. 2009. doi: 10.4088/jcp.s.7002.03. PMID: 19371502.

[153] Pollack MH. Refractory generalized anxiety disorder. The Journal of clinical psychiatry. 2009. doi: 10.4088/jcp.s.7002.06. PMID: 19371505.

[154] Formulations of dietary supplements and herbal extracts for relaxation and anxiolytic action: Relarian.. 2009. PMID: 19865069.

[155] Nutritional and herbal supplements for anxiety and anxiety-related disorders: systematic review.. 2010. doi: 10.1186/1475-2891-9-42. PMID: 20929532.

[156] [Medicinal plants for the treatment of generalized anxiety disorder: a review of controlled clinical studies].. 2010. doi: 10.1590/s1516-44462010005000026. PMID: 21308265.

[157] Herbal medicine for depression, anxiety and insomnia: a review of psychopharmacology and clinical evidence.. 2011. doi: 10.1016/j.euroneuro.2011.04.002. PMID: 21601431.

[158] Genetic variation in a wild population of the 'sleep' passion fruit (Passiflora setacea) based on molecular markers.. 2012. doi: 10.4238/2012.March.22.3. PMID: 22576831.

[159] C-dideoxyhexosyl flavones from the stems and leaves of Passiflora edulis Sims.. 2013. doi: 10.1016/j.foodchem.2012.07.101. PMID: 23017397.

[160] Plant-based medicines for anxiety disorders, part 2: a review of clinical studies with supporting preclinical evidence.. 2013. doi: 10.1007/s40263-013-0059-9. PMID: 23653088.

[161] Passiflora manicata (Juss.) aqueous leaf extract protects against reactive oxygen species and protein glycation in vitro and ex vivo models.. 2013. doi: 10.1016/j.fct.2013.07.028. PMID: 23876820.

[162] Therapeutic potential of culinary-medicinal mushrooms for the management of neurodegenerative diseases: diversity, metabolite, and mechanism.. 2015. doi: 10.3109/07388551.2014.887649. PMID: 24654802.

[163] Clinical applications of herbal medicines for anxiety and insomnia; targeting patients with bipolar disorder.. 2014. doi: 10.1177/0004867414539198. PMID: 24947278.

[164] Strategies of Functional Foods Promote Sleep in Human Being.. 2014. doi: 10.2174/1574362410666150205165504. PMID: 26005400.

[165] Mechanistic evidence of Passiflora edulis (Passifloraceae) anxiolytic activity in relation to its metabolite fingerprint as revealed via LC-MS and chemometrics.. 2015. doi: 10.1039/c5fo00875a. PMID: 26437270.

[166] Open-label observational study of the homeopathic medicine Passiflora Compose for anxiety and sleep disorders.. 2016. doi: 10.1016/j.homp.2015.07.002. PMID: 26828002.

[167] Expression pattern of NMDA receptors reveals antiepileptic potential of apigenin 8-C-glucoside and chlorogenic acid in pilocarpine induced epileptic mice.. 2016. doi: 10.1016/j.biopha.2016.04.066. PMID: 27470339.

[168] Herbal medicines in children with attention deficit hyperactivity disorder (ADHD): A systematic review.. 2017. doi: 10.1016/j.ctim.2016.11.004. PMID: 28137522.

[169] Passionflower Extract Induces High-amplitude Rhythms without Phase Shifts in the Expression of Several Circadian Clock Genes in Vitro and in Vivo.. 2017. PMID: 28824345.

[170] THE USE OF EXTRACTS FROM PASSIFLORA SPP. IN HELPING THE TREATMENT OF ACANTHAMOEBIASIS.. 2017. PMID: 29513962.

[171] Herbal medicines in the treatment of psychiatric disorders: 10-year updated review.. 2018. doi: 10.1002/ptr.6055. PMID: 29575228.

[172] Flavonoids and its Neuroprotective Effects on Brain Ischemia and Neurodegenerative Diseases.. 2018. doi: 10.2174/1389450119666180326125252. PMID: 29577854.

[173] Production of biomolecules of interest to the anxiolytic herbal medicine industry in yellow passionfruit leaves (Passiflora edulis f. flavicarpa) promoted by mycorrhizal inoculation.. 2019. doi: 10.1002/jsfa.9598. PMID: 30666655.

[174] Passionflower.. 2012. PMID: 31643352.

[175] Garlic passion fruit (Passiflora tenuifila Killip): Assessment of eventual acute toxicity, anxiolytic, sedative, and anticonvulsant effects using in vivo assays.. 2020. doi: 10.1016/j.foodres.2019.108813. PMID: 31955772.

[176] Metabolic fingerprinting of banana passion fruits and its correlation with quorum quenching activity.. 2020. doi: 10.1016/j.phytochem.2020.112272. PMID: 32032827.

[177] In Vivo Antidepressant Effect of Passiflora edulis f. flavicarpa into Cationic Nanoparticles: Improving Bioactivity and Safety.. 2020. doi: 10.3390/pharmaceutics12040383. PMID: 32326277.

[178] Herbal Medicinal Products from Passiflora for Anxiety: An Unexploited Potential.. 2020. doi: 10.1155/2020/6598434. PMID: 32765195.

[179] Herbal medicines as anxiolytics prior to third molar surgical extraction. A randomized controlled clinical trial.. 2021. doi: 10.1007/s00784-020-03468-1. PMID: 32951121.

[180] Effectiveness and safety of oral sedation in adult patients undergoing dental procedures: a systematic review.. 2021. doi: 10.1136/bmjopen-2020-043363. PMID: 33495257.

[181] Neuroprotective Potential of Mung Bean (Vigna radiata L.) Polyphenols in Alzheimer's Disease: A Review.. 2021. doi: 10.1021/acs.jafc.1c04049. PMID: 34551518.

[182] Behavioral Pharmacology of Five Uncommon Passiflora Species Indicates Sedative and Anxiolytic-like Potential.. 2022. doi: 10.2174/1871524922666220426102650. PMID: 35473529.

[183] Effect of Passiflora setacea juice and its phenolic metabolites on insulin resistance markers in overweight individuals and on microglial cell activity.. 2022. doi: 10.1039/d1fo04334j. PMID: 35621054.

[184] Edible Mushrooms as a Potential Component of Dietary Interventions for Major Depressive Disorder.. 2022. doi: 10.3390/foods11101489. PMID: 35627059.

[185] Novel Neuroprotective Potential of Bunchosia armeniaca (Cav.) DC against Lipopolysaccharide Induced Alzheimer's Disease in Mice.. 2022. doi: 10.3390/plants11141792. PMID: 35890426.

[186] The Monkey Head Mushroom and Memory Enhancement in Alzheimer's Disease.. 2022. doi: 10.3390/cells11152284. PMID: 35892581.

[187] Enhancement of γ-aminobutyric acid content in shells of passion fruit (Passiflora edulis) under anoxic vacuum conditions.. 2023. doi: 10.1111/1750-3841.16401. PMID: 36524610.

[188] Hericerin derivatives activates a pan-neurotrophic pathway in central hippocampal neurons converging to ERK1/2 signaling enhancing spatial memory.. 2023. doi: 10.1111/jnc.15767. PMID: 36660878.

[189] Systematic review on the anxiolytic and hypnotic effects of flower extracts in in vivo pre-clinical studies published from 2010 to 2020.. 2023. doi: 10.1002/ptr.7830. PMID: 37039741.

[190] Effects of Dietary Supplementation with In Vitro-Cultivated Arboreal Medicinal Mushrooms on Long-Term Memory and Anxiety-Like Behavior of Male Mice.. 2023. doi: 10.1615/IntJMedMushrooms.2023047830. PMID: 37183918.

[191] Deacylated Derivative of Hericenone C Treated by Lipase Shows Enhanced Neuroprotective Properties Compared to Its Parent Compound.. 2023. doi: 10.3390/molecules28114549. PMID: 37299024.

[192] Edible Herbal Medicines as an Alternative to Common Medication for Sleep Disorders: A Review Article.. 2024. doi: 10.2174/1570159X21666230621143944. PMID: 37345244.

[193] Benefits of Erinacines from Different Cultivate Formulas on Cognitive Deficits and Anxiety-Like Behaviour in Mice with Trimethyltin-Induced Toxicity.. 2023. doi: 10.21315/tlsr2023.34.3.9. PMID: 37860101.

[194] Richier C et al.. Brain Age Prediction in Generalized Anxiety Disorder using a Convolutional Neural Network. Research square. 2025. doi: 10.21203/rs.3.rs-6866544/v1. PMID: 40630531.

This monograph synthesises evidence from the published biomedical literature on the constituent extracts of Vitexin 90 by Zenius Labs™. Edition IV · May 2026 Revision · MONO-VX-IV.2026.