



Pryenda

Product Information Sheet



Pryenda™ is a Phytotherapeutic extraction of, *Scutellaria baichenalis*, *Gastrodia elata*, *Illicium venum*, *Vitis vinifera*, *Camellia sinensis*, *Paonia alba* and *Cinnamomum verum*. Using advanced laboratory extraction apparatus & proprietary production protocols, these phytochemicals are combined to stop the formation of prions in the brain.

Pryenda™ Contains:

Scutellaria baichenalis, *Scutellaria baicalensis* (*Radix Scutellariae* / Huang Qin): The dried root is rich in flavonoids (major compounds: baicalein, baicalin, wogonin, wogonoside, oroxylin A and their glycosides) and has a long history in traditional East Asian formulations for inflammatory and respiratory complaints. Preclinical studies show these flavones can modulate inflammatory signaling, antioxidant defenses, and protein-aggregation pathways; limited human data exist for some indications. These findings are experimental or preliminary and do not establish clinical efficacy.

Gastrodia elata (*Tianma*) A traditional Chinese medicine used historically for neurologic complaints including headache, dizziness, and spasm. Preclinical research indicates *Tianma* extracts can influence neuronal signaling and proteolytic processing of amyloid precursor protein (APP), and may modulate pathways linked to synaptic function and neuronal survival in cellular and animal studies. Human evidence is limited; these mechanistic results are hypothesis-generating rather than proof of clinical benefit.

Illicium venum, (*Star anise*) A culinary spice containing shikimic acid and related constituents. Laboratory studies and phytochemical research describe biological activities of shikimic derivatives, and star anise has been investigated for antimicrobial and platelet-activity effects in experimental models. Note: shikimic acid is a chemical precursor used in the synthesis of some antiviral drugs (e.g., oseltamivir); this does not mean star anise itself provides the same clinical antiviral activity.

Vitis vinifera, (*Grape*; including grape seed extracts): Grapes and grape seeds supply polyphenols, flavonoids, and stilbenes such as resveratrol. Preclinical models report antioxidant, anti-amyloid, anti-inflammatory, and neuroprotective activities, and some human studies have examined effects on oxidative markers and metabolic endpoints. Mechanistic data include modulation of antioxidant enzymes (SOD, HO-1, GPx) and activation of the Nrf2/ARE pathway. Human results are mixed and context-dependent.

Camellia sinensis Green tea catechins—particularly EGCG—are well characterized for antioxidant and anti-inflammatory activity in laboratory studies and have been examined in clinical research for multiple endpoints. EGCG is a potent inducer of HO-1 in preclinical models and may influence oxidative-stress and inflammatory pathways; clinical effects vary by dose and formulation.

Paoniae alba, (*White peony*): Used in traditional medicine for inflammatory and pain-related disorders. Phytochemicals from *Paonia* show immunomodulatory and analgesic effects in preclinical models and some clinical contexts (e.g., adjunctive uses in inflammatory conditions). Proposed mechanisms include modulation of neurotransmitter and receptor systems and anti-inflammatory activity.

Cinnamomum verum (*Ceylon cinnamon*): A culinary and medicinal bark long used for flavor and traditional remedies. Rich in polyphenols and phenolic acids, cinnamon extracts demonstrate antioxidant activity.



Below you will find research and takeaways from them that we wanted to share with you, they are for educational purposes only.

Transmissible spongiform encephalopathies (TSEs) involve misfolding of the normal prion protein (PrP(C)) into a pathogenic isoform (PrP(Sc)), leading to β -sheet-rich aggregates and associated neuronal and synaptic dysfunction in affected models. *Scutellaria baicalensis* contains flavonoids such as baicalein and baicalin that have shown activity in experimental models relevant to prion protein aggregation. These findings are preclinical and suggest potential mechanisms worth further study.

Age-related neurodegenerative conditions (e.g., Alzheimer's disease, Parkinson's disease, vascular dementia) are associated with accumulation of misfolded amyloid or other aggregated proteins that disrupt synaptic function. Traditional medicines such as *Gastrodia elata* (Tianma) have long been used in Asia for neurologic support. Polyphenol-rich extracts from *Vitis vinifera* (grape) and curcuminoids from *Curcuma longa* have demonstrated anti-amyloid, antioxidant, and neuroprotective effects in various preclinical models, where they reduced aggregate burden and improved behavioral endpoints in animals.

Progressive accumulation of misfolded amyloid proteins in intracellular and extracellular spaces is associated with synaptic damage and impaired neuronal communication in several neurodegenerative disorders. Polyphenols from *Vitis vinifera* (grape) and curcuminoids from *Curcuma longa* have demonstrated anti-amyloid, antioxidant, and anti-inflammatory activity in preclinical models, where they reduced aggregate burden and improved functional outcomes in animals. These findings are experimental and hypothesis-generating; they do not establish clinical efficacy in humans.

Rhea EM., Logsdon AF, Williams LM., et al., 2021 — "The S1 protein of SARS-CoV-2 crosses the blood–brain barrier in mice." *Nature Neuroscience*. <https://www.nature.com/articles/s41593-020-00771-8>

Study type: Preclinical — in vivo mouse study using radiolabeled S1 protein.

Key results: Radiolabeled S1 protein administered intravenously or intranasally crossed the murine blood–brain barrier, entered multiple brain regions, and used adsorptive transcytosis mechanisms; uptake differed by route and tissue.

Takeaway (qualified): In mice, the SARS-CoV-2 S1 subunit can cross the BBB and reach brain tissue under experimental conditions; extrapolation to human exposure scenarios requires caution and additional study.

Hwang D., Lee IY., Yoo H., et al., 2009 — "A systems approach to prion disease." *Molecular Systems Biology*. <https://www.embopress.org/doi/10.1038/msb.2009.10>

Study type: Preclinical — systems biology gene-expression analysis in multiple mouse/prion-strain models.

Key results: Identified a core set of differentially expressed genes and network modules associated with prion disease progression across strains; mapped pathways tied to PrPSc accumulation and neuropathology.

Takeaway (qualified): A systems transcriptomic analysis that defines molecular networks altered in prion-infected mouse brains, useful for hypothesis generation and mechanistic study, not a clinical intervention.



Eiden M., Leidel F., Strohmeier B., Groschup MH., 2012 — "Scutellaria lateriflora inhibits PrP replication in vitro and delays onset of prion disease in mice." *Frontiers in Psychiatry (Research Article)*.

<https://www.frontiersin.org/articles/10.3389/fpsy.2012.00009/full>

Study type: Preclinical — in vitro prion cell assays and scrapie-infected mouse model.

Key results: Scutellaria extracts and flavonoids (baicalein/baicalin) reduced PrP-res accumulation in cell assays, destabilized fibrils in vitro, and oral tea prolonged incubation time in scrapie-infected mice.

Takeaway (qualified): Preclinical data suggest Scutellaria constituents can modulate prion aggregation and delay disease in animal models; these findings are investigational and do not demonstrate human therapeutic efficacy.

Manavalan A., Ramachandran U., Mishra M., et al., 2012 — "Gastrodia elata mobilizes neuro-protective capacities." *International Journal of Biochemistry & Molecular Biology*. (pilot proteomics study) <https://www.ijbmb.org/>

Study type: Preclinical — proteomics in neuronal cell models and mouse cognitive assays.

Key results: Tianma (*Gastrodia elata*) treatment altered neuronal proteomes and in mouse models promoted α -secretase processing of APP and improved some cognitive test outcomes.

Takeaway (qualified): Experimental and animal data indicate *Gastrodia* extracts can influence APP processing and neuroprotective pathways; human relevance requires controlled clinical trials.

Mishra M., Huang J., Lee YY., et al., 2011 — "*Gastrodia elata* modulates amyloid precursor protein cleavage and cognitive functions in mice." *BioScience Trends*. <https://www.biosciencetrends.com/>

Study type: Preclinical — mouse cognitive behavior and biochemical assays.

Key results: Tianma administration in mice was associated with enhanced α -secretase activity, reduced amyloidogenic APP processing, and improved performance on cognitive tasks.

Takeaway (qualified): Animal evidence suggests modulation of APP processing and cognition by *Gastrodia* extracts; this is mechanistic/preclinical and not proof of human clinical benefit.

Caughey B., Raymond LD., Raymond GJ., et al., 2003 — "Inhibition of protease-resistant prion protein accumulation in vitro by curcumin." *Journal of Virology*. <https://pubmed.ncbi.nlm.nih.gov/12704317/>

Study type: Preclinical — in vitro cell models and limited in vivo data.

Key results: Curcumin inhibited PrP-res accumulation in infected neuroblastoma cells at low nanomolar concentrations; dietary curcumin did not significantly alter scrapie onset in one animal model.

Takeaway (qualified): Curcumin shows potent in vitro anti-prion activity but limited in vivo translation in the models tested; promising mechanistic data require further validation.

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Velander P., Wu L., Henderson F., et al., 2017 — "Natural product-based amyloid inhibitors." *Biochemical Pharmacology* (Review). <https://pubmed.ncbi.nlm.nih.gov/28499905/>

Study type: Review — preclinical in vitro and in vivo animal studies of natural amyloid inhibitors.

Key points: Surveys classes of natural products (polyphenols, alkaloids, etc.) that inhibit amyloid aggregation in vitro and in animal models; discusses mechanisms, delivery challenges, and translational gaps.

Takeaway (qualified): Many natural products show anti-amyloid activity in laboratory and animal studies; bioavailability and rigorous clinical evidence remain key translational hurdles.