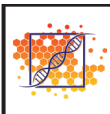


Brain Protect



Clinical Applications

- Helps Support Normal, Healthy Cognitive Function*
- May Support the Health of Brain Tissue*

***Brain Protect** is a unique combination of nutrients and botanicals that supports cognitive function and a healthy memory. It features select B vitamins, including Quatrefolic®, a patented form of 5-MTHF; the herbs *Ginkgo biloba* and *Bacopa monnieri*; nutrients that provide antioxidant activity; and brain-specific nutrients such as acetyl-L-carnitine and sunflower-derived phosphatidylserine. This comprehensive formula addresses the multiple pathways involved in neurological health by supporting oxidant and cytokine balance, methylation, mitochondrial function, and endocrine balance.**

All Bluegrass Precision Wellness Formulas Meet or Exceed cGMP Quality Standards

Discussion

Vitamins B6 (as pyridoxal 5'-phosphate), B12 (as methylcobalamin), and folate (as 5-MTHF) are essential homocysteine remethylation cofactors; as such, they support the maintenance of healthy homocysteine levels. Normal blood levels of homocysteine are associated with healthy cognition in the elderly and healthy cerebrovascular function.^[1] The brain may be protected by improving methylation by providing the nutritional cofactors needed for proper functioning of the methionine cycle.*^[2]

5-MTHF (5-methyltetrahydrofolate) may better support folate nutrition in those with digestive issues and those with genetic variations in folic acid metabolism. The form of 5-MTHF in Brain Protect is Quatrefolic, which is proven to have greater stability, solubility, and bioavailability over calcium salt forms of 5-MTHF.*

N-Acetyl-Cysteine is capable of crossing the blood-brain barrier and is known to combat oxidative stress, and reduced oxidative stress may support healthier nerve tissue.^[3] L-carnitine is a vital cofactor for mitochondrial oxidation of fatty acids providing the brain with an energy substrate. **Acetyl-L-carnitine**, an ester of L-carnitine, possesses properties that may be effective in supporting healthy cognition with age.^[4,5] The phospholipid **phosphatidylserine (PS)** plays an important functional role in membrane-related processes in the brain and regulates the release of acetylcholine, dopamine, and noradrenaline. PS appears to support neuronal health and healthy brain function, possibly through its effect on cytokine production and their influence on microglia.*^[6]

Ginkgo biloba leaf extract contains two main bioactive constituents—ginkgo flavonoglycosides (24%) and terpene lactones (6%)—and is used in the formula because of its reported stress-alleviating and memory-supportive effects as well as its ability to support the health and integrity of neurons. The mechanisms of action may be mediated through its antioxidant, antihypoxic, and microcirculatory actions.^[7] The Ayurvedic herb ***Bacopa monnieri*** has reported cognition-facilitating, cytokine-modulating, and anti-stress effects. These effects are thought to be mediated through its remarkable free-radical-scavenging capacity and its protective effect on DNA cleavage.*^[8]

Vinpocetine is derived from vincamine, an alkaloid extracted from the periwinkle plant (*Vinca minor*). It has been used extensively in Eastern Europe, and more recently in the United States, to support cerebrovascular health and healthy mental function. Vinpocetine's roles in supporting brain function are multi-modal and include its influence on cerebral circulation, its antioxidant activity in the brain, and its role in affecting ion channels and cytokine production.^[9-11] Together, these varied actions support overall brain tissue health and function. The efficacy and safety of vinpocetine have been tested and validated by in vitro, animal, and human studies. Many human studies demonstrate positive results in neurologic functioning—primarily related to capillary blood flow and cellular metabolism.*^[12-15]

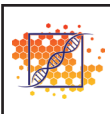
Huperzine A (HupA), like vinpocetine, affects ion channels. Such activity has been found to support healthy learning and memory. HupA may have a positive effect on levels of acetylcholine through its action on acetylcholinesterase (AChE). Acetylcholine is one of the chemicals that our nerves use to communicate in the brain, muscles, and other areas. HupA has been found to support healthy cognition in a broad range of animal models, and phase IV clinical trials in China demonstrated that HupA was valuable in promoting healthy recall and cognition in elderly subjects.*^[16]

***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.**

Distributed By:
Bluegrass Precision Wellness
611 Hambley Blvd # 200
Pikeville, KY 41501



Brain Protect



Supplement Facts

Serving Size: 1 Capsule
Servings Per Container: 60

Amount Per Serving %Daily Value		
Vitamin B6 (as pyridoxal 5'-phosphate)	5 mg	294%
Folate (as (6S)-5-methyltetrahydrofolic acid, glucosamine salt) ^{S1}	170 mcg DFE	43%
Vitamin B12 (as methylcobalamin)	100 mcg	4,167%
Acetyl-L-Carnitine (as acetyl-L-carnitine HCl)	250 mg	**
N-Acetyl-L-Cysteine	100 mg	**
Ginkgo Extract (<i>Ginkgo biloba</i>)(leaf) (20% ginkgolideglycosides and 5% terpene lactones)	60 mg	**
Bacopa Extract (<i>Bacopa monnieri</i>)(whole plant)(8% bacosides)	50 mg	**
Phosphatidylserine ^{S2}	15 mg	**
trans-Resveratrol (from <i>Polygonum cuspidatum</i> root extract)	1 mg	**
Huperzine A (from <i>Huperzia serrata</i>)(whole plant)	100 mcg	**

** Daily Value not established.

Other Ingredients: Capsule (hypromellose), stearic acid, calcium silicate, tricalcium phosphate, silica, magnesium stearate, and microcrystalline cellulose.

S1. Quatrefolic® is a registered trademark of Gnosis S.p.A. Produced under US Patent 7,947,662.

S2. Sharp®PS® GREEN is a registered trademark of Enzymotec Ltd.

Directions

Take one capsule twice daily, or as directed by your healthcare professional.

Formulated To Exclude

Wheat, gluten, yeast, soy, animal and dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, and artificial preservatives.

References

1. Malouf R, Grimley Evans J. The effect of vitamin B6 on cognition. *Cochrane Database Syst Rev.* 2003;(4):CD004393. [PMID: 14584010]
2. Miller AL. The methionine-homocysteine cycle and its effects on cognitive diseases. *Altern Med Rev.* 2003 Feb;8(1):7-19. [PMID: 12611557]
3. Farr SA, Poon HF, Dogrukol-Ak D, et al. The antioxidants alpha-lipoic acid and N-acetylcysteine reverse memory impairment and brain oxidative stress in aged SAMP8 mice. *J Neurochem.* 2003 Mar;84(5):1173-83. [PMID: 12603840]
4. Virmani A, Binienda Z. Role of carnitine esters in brain neuropathology. *Mol Aspects Med.* 2004 Oct-Dec;25(5-6):533-49. [PMID: 15363640]
5. Milgram NW, Araujo JA, Hagen TM, et al. Acetyl-L-carnitine and alpha-lipoic acid supplementation of aged beagle dogs improves learning in two landmark discrimination tests. *FASEB J.* 2007 Nov;21(13):3756-62. [PMID: 17622567]
6. Hashioka S, Han YH, Fujii S, et al. Phosphatidylserine and phosphatidylcholine-containing liposomes inhibit amyloid beta and interferon-gamma-induced microglial activation. *Free Radic Biol Med.* 2007 Apr;42(7):945-54. [PMID: 17349923]
7. Mahadevan S, Park Y. Multifaceted therapeutic benefits of Ginkgo biloba L.: chemistry, efficacy, safety, and uses. *J Food Sci.* 2008 Jan;73(1):R14-19. [PMID: 18211362]
8. Russo A, Izzo AA, Borrelli F, et al. Free radical scavenging capacity and protective effect of *Bacopa monnieri* L. on DNA damage. *Phytother Res.* 2003 Sep;17(8):870-75. [PMID: 13680815]
9. Hadjiev D. Asymptomatic ischemic cerebrovascular disorders and neuroprotection with vinpocetine. *Ideggyogy Sz.* 2003 May;56(5-6):166-72. [PMID: 12861957]
10. Muravyov AV, Yakusevich VV, Chuchkanov FA, et al. Hemorheological efficiency of drugs, targeting on intracellular phosphodiesterase activity: in vitro study. *Clin Hemorheol Microcirc.* 2007;36(4):327-34. [PMID: 17502703]
11. Vinpocetine. Monograph. *Altern Med Rev.* 2002 Jun;7(3):240-43. [PMID: 12126465]
12. Valikovics A. Investigation of the effect of vinpocetine on cerebral blood flow and cognitive functions [in Hungarian]. *Ideggyogy Sz.* 2007 Jul;60(7-8):301-10. [PMID: 17713111]
13. Chukanova EI. Efficacy of cavinton in the treatment of patients with chronic blood flow insufficiency. Russian multicenter clinical-epidemiological program "CALIPSO" [in Russian]. *Zh Nevrol Psikhiatr Im S S Korsakova.* 2010;110(12):49-52. [PMID: 21311488]
14. Chukanova EI. Cavinton in the complex treatment of patients with chronic cerebrovascular insufficiency [in Russian]. *Zh Nevrol Psikhiatr Im S S Korsakova.* 2009;109(9):35-39. [PMID: 19770831]
15. Bagoly E, Fehér G, Szapáry L. The role of vinpocetine in the treatment of cerebrovascular diseases based in human studies [in Hungarian]. *Orv Hetil.* 2007 Jul;148(29):1353-58. [PMID: 17631470]
16. Wang R, Yan H, Tang XC. Progress in studies of huperzine A, a natural cholinesterase inhibitor from Chinese herbal medicine. *Acta Pharmacol Sin.* 2006 Jan;27(1):1-26. [PMID: 16364207]

Cautions

Consult your healthcare professional before use, especially if you have low blood pressure, are taking blood-thinning agents, or are within two weeks before or after undergoing surgery. Do not take if you are pregnant or lactating. Do not use if tamper seal is damaged.

***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.**



Distributed By:
Bluegrass Precision Wellness
611 Hambley Blvd # 200
Pikeville, KY 41501

DRS-178
REV. 11/23/21