Clinical Applications

- Support Brain Health and Healthy Recall Ability*
- Provide Nutrients That Support Antioxidant Mechanisms*
- Supply Protein and Amino Acids for Neurotransmitter Production*

Brain Retain represents more than 30 years of neuroscience research. Designed to address brain health, structure, and function, these formulas contain a variety of nutrients and cofactors that support mitochondrial energy production, antioxidant systems, neurotransmitter production, and cell membrane integrity.*

All 3rd Opinion Inc Formulas Meet or Exceed cGMP Quality Standards

Discussion

EVNol™, currently found in Creamy Chocolate and Vanilla Delight and not in Brain Retain for Kids, is a patented, full-spectrum, pure d-mixed–tocotrienols complex. This advanced tocotrienol ingredient is derived from sustainable red palm fruit oil—a scientifically validated source. It is primarily composed of the four tocotrienol isomers (alpha, beta, gamma, and delta) in natural ratios. EVNol also provides d-alpha tocopherol and phytonutrients that are naturally extracted with the tocotrienols. The result is a natural and wholesome tocotrienol complex. The extraordinary protective benefits of tocotrienols on brain cells (e.g., white matter) and neurons have been demonstrated in in vitro, animal, and human studies.[1-3] A large, placebo-controlled human trial investigated the effects of tocotrienols on white matter lesions (WML). Individuals taking the placebo showed an increase in WML volume, while those taking 200 mg of EVNol twice a day (equivalent to approximately 68 mg pure d-mixed tocotrienols) remained essentially unchanged.[2] Scientists later determined that in order to achieve brain protection, the required plasma level of tocotrienols is just 588.6 nanomolar, which equates to approximately 31.25 mg of pure d-mixed tocotrienols/day.[4,5]

Furthermore, several studies have shown that good vitamin E status, especially tocotrienols, is associated with cognitive health and reduced risk of cognitive impairment in older adults.[5,6] In a cross-sectional multicenter study on elderly subjects, researchers at the Aging Research Center at Karolinska Institutet in Stockholm found that cognitively normal individuals had better mean plasma levels of vitamin E, especially tocotrienols, and lower oxidative damage markers.[5] Other research has demonstrated that combined tocopherol and tocotrienol administration supports healthy liver conditions and liver triglyceride metabolism.[7-10] EVNol has a self-affirmed GRAS (generally recognized as safe) designation. It is 100% vegetarian-based and is derived from non-GMO sources.

N-Acetyl-Cysteine (NAC) is a precursor to glutathione—a tripeptide active in detoxification and antioxidant systems. Research suggests that NAC hinders the formation of free radicals that can contribute to oxidative stress in the brain.[11]

Phosphatidylserine (PS) is a phospholipid that is highly concentrated in the brain and plays a key role in neuronal energy production and communication. The body must synthesize the PS it needs for brain health because very little is found in food. Supplementation can help maintain normal brain levels of PS and thereby support brain functions that are dependent on this vital phospholipid.[12-14] For some individuals, changes in brain function may be related to “age-related decline in nutrition,”[14] and early nutrition intervention may be warranted. These Brain Retain formulas contain safe-source PS from non-GMO soy.*

Acetyl-L-Carnitine (ALCAR) supports nerve health.[16] It is able to cross the blood-brain barrier where it stabilizes cell membranes, provides antioxidant support, and helps maintain brain cell health.[17-19] In addition, ALCAR supports neuronal energy production, facilitates transport of fuel and waste products into and out of mitochondria, and supports production of acetylcholine, a neurotransmitter essential to the processes of learning and concentration.[18,20]

Alpha-Lipoic Acid has fat- and water-soluble properties and therefore imparts intracellular and extracellular protection against oxidative stress. With its low molecular weight, alpha-lipoic acid is easily absorbed in the gastrointestinal tract. It then enters circulation, crosses the blood-brain barrier, and reaches the brain where it can support antioxidant activity and regenerate glutathione, vitamin E, and vitamin C.[21,22]
Coenzyme Q10 (CoQ10) plays a pivotal role in energy generation because it transports electrons in the mitochondrial electron transport chain. CoQ10 also donates electrons, helping to protect the brain from oxidative stress and further supporting neuronal cell health.*[23]

Glucoraphanin (previously Brassica's SGS™, now Brassica's truebroc™) is a patented phytochemical derived from broccoli extract. Extensive research suggests that when glucoraphanin is enzymatically converted to sulforaphane (its active form), it safely and effectively supports the Nrf2 system, antioxidant systems, and vital phase II detoxification enzymes.[24,25] This process provides protection from common toxins and xenobiotics.*

DHA (docosahexaenoic acid) is a conditionally essential fatty acid and the main polyunsaturated fatty acid in the brain. DHA supports the structure and function of brain cell membranes, and hence plays a fundamental role in neuronal communication.[26] Studies suggest that DHA supports the biosynthesis and accumulation of PS in neuronal and glial cells as well.[27]

Vegan Protein Blend is 3rd Opinion Inc's proprietary and lactose-free pea/rice protein blend. In Brain Retain and Brain Retain for Kids, Vegan Protein Blend is coupled with Aminogen®, an enzyme complex that facilitates protein digestion and absorption. Amino acids from protein metabolism provide the precursors needed for neurotransmitter production.*

Micronutrients complete the adult version of this formula's comprehensive design. These include magnesium, calcium, phosphorus, vitamin D3, vitamin E (as mixed tocopherols), and activated B vitamins riboflavin 5'-phosphate (B2), pyridoxal 5'-phosphate (B6), folate as 5-MTHF (5-methyltetrahydrofolate). 5-MTHF supports healthy folate nutrition, especially in individuals with genetic variations in folate metabolism. 5-MTHF is provided as Quatrefolic® for enhanced stability, solubility, and bioavailability.[28,29] In addition, two scoops of Brain Retain adult formula provide the same amount of NAC, PS, ALCAR, alpha-lipoic acid, CoQ10, and glucoraphanin as eight capsules of Neuro Advance*.

*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.
References


