

PRODUCT DATA SHEET

Product: Pharma Natural's **pharma elements** [FXS8-C](#)

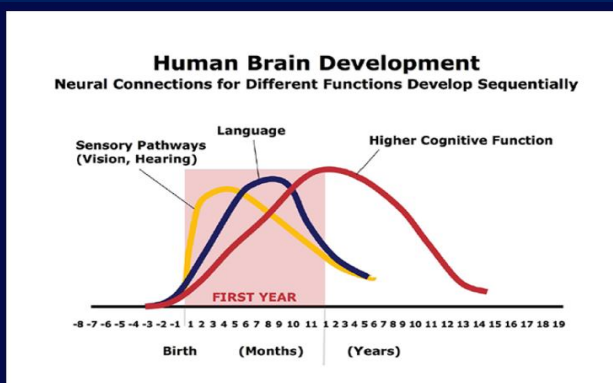
Nutraceutical Product IntegritySM



Developed by Pharma Natural's Natural Health Sciences Research & Development Laboratory, FXS8-C, is believed to be the first all-natural, non-pharmacological nutraceutical, especially formulated to address human brain biochemical-centered cognition and cerebral functions in children. Scientific research has found that each of the all-natural ingredients in FXS8-C may provide improvements in the brain's biochemical activity and in so doing support mental development and neurodevelopment treatment therapies. See pg.2 DESCRIPTION for more about the science behind [FXS8-C](#).

In the first few years of life, more than 1 million new neural connections are formed every second...

The basic architecture of the brain is constructed through a process that begins early in life and continues into adulthood. Simpler circuits come first and more complex brain circuits build on them later. Genes provide the basic blueprint, but experiences influence how or whether genes are expressed. Together, they shape the quality of brain architecture and establish either a sturdy or a fragile foundation for all of the learning, health, and behavior that follow. Plasticity, or the ability for the brain to reorganize and adapt, is greatest in the first years of life and decreases with age.



Among the factors that influence early brain development, three stand out as having particularly profound effects: reduction of toxic stress and inflammation, presence of strong social support and secure attachment, and provision of optimal nutrition³. All nutrients are important for brain growth and function, but certain ones have particularly significant effects during early development or sensitive period for that process ([Table](#)).

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4981537/>

1. <https://developingchild.harvard.edu/resources/brief-science-of-ocd/>

2. Chart source credit: C.A. Nelson (2000). Credit: Center on the Developing Child

Vitamin D3

Individuals with Fragile X syndrome (FXS) are frequently co-diagnosed with autism (aka autism spectrum disorder, or ASD). In a double-blind clinical study, the autism symptoms of the children improved significantly, following 4-month vitamin D3 supplementation, but not in the placebo group. Supplementation of vitamin D was well tolerated by the study group. This study demonstrates the efficacy and tolerability of high doses of vitamin D3 in children with ASD. Depending on the parameters measured in the study, oral vitamin D supplementation may safely improve signs and symptoms of ASD and could be recommended for children with ASD.

<https://www.ncbi.nlm.nih.gov/pubmed/27868194>

Vitamin E (as d-alpha tocopherol)

The brain is highly susceptible to oxidative

stress. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4276978/>

Vitamin E is a fat-soluble nutrient. In the body, it acts as an antioxidant, helping to protect cells from the damage caused by free radicals. Free radicals are compounds formed when our bodies convert the food we eat into energy. People are also exposed to free radicals in the environment from cigarette smoke, air pollution, and ultraviolet light from the sun. The body also needs vitamin E to boost its immune system so that it can fight off invading bacteria and viruses. It helps to widen blood vessels and keep blood from clotting within them. In addition, cells use vitamin E to interact with each other and to carry out many important functions. The amount of vitamin E you need each day depends age.

<https://ods.od.nih.gov/factsheets/VitaminE-Consumer/>

Vitamin E is found in parts of the brain that are linked to memory, vision, hearing, language development and even complex learning, It is one of the most powerful antioxidant nutrients.

Vitamin C (as ascorbic acid)

Vitamin C, or ascorbic acid, is a water-soluble vitamin. This means that it is delivered to the body's tissues but is not well stored, so it must be taken daily through food or supplements. Vitamin C is a powerful antioxidant. The vitamin helps make several hormones and chemical messengers used in the brain and nerves.

Ascorbate is important for neuronal maturation and function, as well as for protection of the brain against oxidant stress is well supported by the evidence presented in this review. The vitamin is maintained at high concentrations in brain and in neurons in particular relative to other

organs. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2649700/>

Biofolate[®]

Biofolate[®], Calcium L-5 Methyltetrahydrofolate, is the biologically active form of folic acid. Compared to regular folic acid, the L-form is better absorbed by the body.

AstaZine[®] Natural

Clinically-validated AstaZine Natural Astaxanthin is only one of two Astaxanthin ingredients that have actively published clinical research in the last several years. The first study to examine multiple implications for Astaxanthin in improving psychological health found a decrease in feelings of depression by 57%, a decrease in mental fatigue by 36%, and an increase in global mood state (overall feeling of psychological well-being) by

11%. https://www.nutraceuticalbusinessreview.com/news/article_page/Clinically-Validated_AstaZine_Natural_Astaxanthin/158825