



Neuroplasticity Through Cognitive Nutrition™ www.BiologicsNutra.com



What Is Neuroplasticity? #1

"Welcome to the age of neuroplasticity!"

"Studies are showing that neuroplasticity may have enormous implications not only for our physical health but for our mental health." . . .



Neuroplasticity:
 the capacity of the human brain to grow and change,
 throughout all of the stages of life.

Pure Harvest Extractions' *Biologics Nutraceuticals*™ brand offers a discerning public access to leading edge cognitive enhancement nutrition.

Built around the brain-boosting power of our potentially bioavailable choline, Alpha GPC, our nutrients combinations are targeted to support your brain and neurological health.

COGNITIVE ENHANCEMENT NUTRITION

***Neuroplasticity and Cognitive Nutrition* – PHE’s special nutrients can assure optimal cognitive function even into an advanced age, focused on the role of Choline and Methylation.**

Developed from natural sources, *Biologics Nutraceuticals* powerful nutrients are designed to support cognitive function, using an advanced form of Choline, Glyceryl Phosphoryl Choline (A-GPC).

The *Encyclopedia Britannica* describes Neuroplasticity as the “capacity of neurons and neural networks in the brain to change their connections and behavior in response to new information, sensory stimulation, development, damage, or dysfunction. Although neural networks also exhibit modularity and carry out specific functions, they retain the capacity to deviate from their usual functions and to reorganize themselves. In fact, for many years, it was considered dogma in the neurosciences that certain functions were hard-wired in specific, localized regions of the brain and that any incidents of brain change or recovery were mere exceptions to the rule. However, since the 1970s and ’80s, neuroplasticity has gained wide acceptance throughout the scientific community as a complex, multifaceted, fundamental property of the brain.”¹

Why does Neuroplasticity matter?

“It [aging of the brain] is a physical process that explains the thickening or shrinking of the grey matter in the brain. It explains the brain’s ability to forge and refine neural connections or weaken and sever (aka “prune”) them... “These physical changes of the brain manifest as changes in our abilities. An example; each time you learn a new dance step, new “wires” (neural pathways) are made to give instructions to our bodies on how to perform the step. Each time we forget something, e.g. someone’s name, it also represents a physical change. Neural pathways that once connected to the memory have been degraded, or even severed.”²

Neuroplasticity is the condition wherein the physical processes of the brain continue in a healthy, youthful manner, allowing your brain to function optimally. Insofar as “You [and your brain] are what you eat” nutrition is the key to maintaining great brain health.

“Choline and Alpha GPC is a favorite of responsible Biohackers because it balances out the brain chemistry that results from the heightened baselines of other neurotransmitters, particularly Dopamine and Serotonin, resulting from taking ... nootropics.”³

¹ <https://www.britannica.com/science/neuroplasticity>

² <http://hbmag.com/neuroplasticity/>

³ <https://medium.com/@jonathanroseland/alpha-gpc-the-neuroplasticity-hack-1c564e9d01ae>

NUTRITIONAL NEUROSCIENCE

“...diet is also a key component for optimal neural functioning. This research has been dubbed ‘nutritional neuroscience’ and it has drawn significant attention. A plethora of peer reviewed studies exist on the subject and more are being published every year.”

“It wasn’t until 1998 that the National Academy of Sciences determined choline to be a required nutrient. Dietary choline is essential for normal brain development. Specifically, choline plays an important role in memory in the hippocampus because it aids in the methylation process. Methylation is required for proper cell signaling and neuroplasticity. A choline-deficient diet has been shown to impair growth, memory, hepatic, renal and pancreatic function in mammals. It is known that choline is important for cognitive function yet its effects on emotional health are just beginning to be studied. So far a correlation between choline deficiency and high anxiety has been found (an inverse relationship).”⁴

“Neuroplasticity, also known as brain plasticity and neural plasticity, is the ability of the brain to change throughout an individual's life, e.g., brain activity associated with a given function can be transferred to a different location, the proportion of grey matter can change, and synapses may strengthen or weaken over time.

Research in the latter half of the 20th century showed that many aspects of the brain can be altered (or are "plastic") even through adulthood. However, the developing brain exhibits a higher degree of plasticity than the adult brain.

Neuroplasticity can be observed at multiple scales, from microscopic changes in individual neurons to larger-scale changes such as cortical remapping in response to injury.

Behavior, environmental stimuli, thought, and emotions may also cause neuroplastic change through activity-dependent plasticity, which has significant implications for healthy development, learning, memory, and recovery from brain damage.

At the single cell level, synaptic plasticity refers to changes in the connections between neurons, whereas non-synaptic plasticity refers to changes in their intrinsic excitability.”⁵

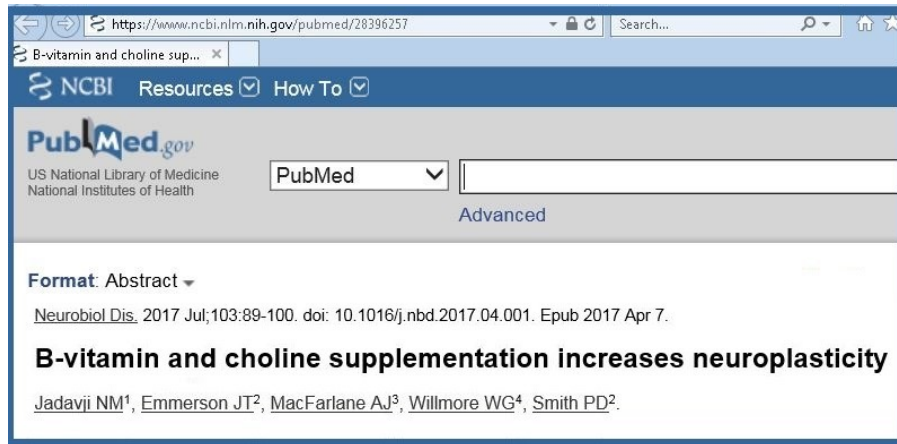
A significant study published on PubMed at the National Institutes of Health web site suggests the important role that choline plays in supporting neuroplasticity. We do not adopt any “treatment of stroke” implications of this study, as PHE only offers products for dietary supplementation, not treatment purposes, which would be, with regard to our products, “off-label” uses. However, we do site this study for the proposition that choline is an important nutrient in maintaining a healthy brain.

"B-vitamin and choline supplementation increases neuroplasticity..."⁶

⁴ <http://soul-beet.com/nutritional-neuroscience/>

⁵ <https://en.wikipedia.org/wiki/Neuroplasticity>

⁶ <https://www.ncbi.nlm.nih.gov/pubmed/28396257>

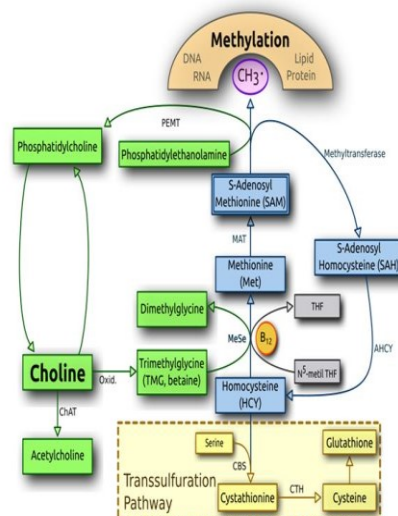


From Paleo Author Mark Sisson⁷

Get enough choline (and maybe supplement with specific forms).

“We use choline to produce acetylcholine, a neurotransmitter required for neuronal plasticity. Two forms of choline in particular, CDP choline and **Alpha-GPC**—have been shown to increase brain plasticity... Don’t sell pastured egg yolks short though. While they may not contain as much concentrated choline as the supplements, they are the richest natural source and contain many other brain-friendly nutrients (selenium, cholesterol, DHA).”

Neuroplasticity and Methylation Providing Choline for Better Brain Function



The complex biological relationships among Choline and other nutrients in the methylation process have been shown to have powerful impact on cognitive function and the ability of the brain to learn and make new neural pathways – that is, neuroplasticity.

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⁷ <https://www.marksdailyapple.com/16-ways-to-increase-neuroplasticity-and-why-thats-important/>

BiologicsNutra™
Is a Division of Pure Harvest Extractions, LLC
Neuroplasticity Through Cognitive Nutrition™
www.BiologicsNutra.com

For over a decade BiologicsNutra has offered powerful neuroplasticity nutrients to a discerning public. Our products are designed to work together to assure your cognitive capacity, based on the latest science...



Notice: Our Supplements contain only the purest ingredients according to the highest standards. We use only the most natural fillers when needed. Individual results may vary. You should always consult with your physician before starting these products or any health-related program. Galantamine is currently not recommended for use by young individuals. Precautions: Do not use if tamper resistant seal is missing or broken. If taken too late in the day, may cause sleep disturbance. Consult your physician prior to use if you are pregnant or nursing. Keep out of reach of children.

These statements have not been evaluated by the Food and Drug Administration.
These products are not intended to diagnose, treat, cure or prevent any disease.

⁸ <https://commons.wikimedia.org/w/index.php?curid=202651140>