NATURAL PRODUCTS INSIDER®

Next-Gen Ingredients *for Brain Health*

The brain is one of the most complex organs in the human body, serving—from conception to the golden years—as the center of the nervous system and playing an intricate role in numerous body functions, **from memory and movement to intellect and mood.**

OMEGA-3s

Omega-3 docosahexaenoic acid **(DHA)** and eicosapentaenoic acid **(EPA) support the brain** at **all stages** of life.

Promotes fetal brain and eye development

Promotes cognitive performance

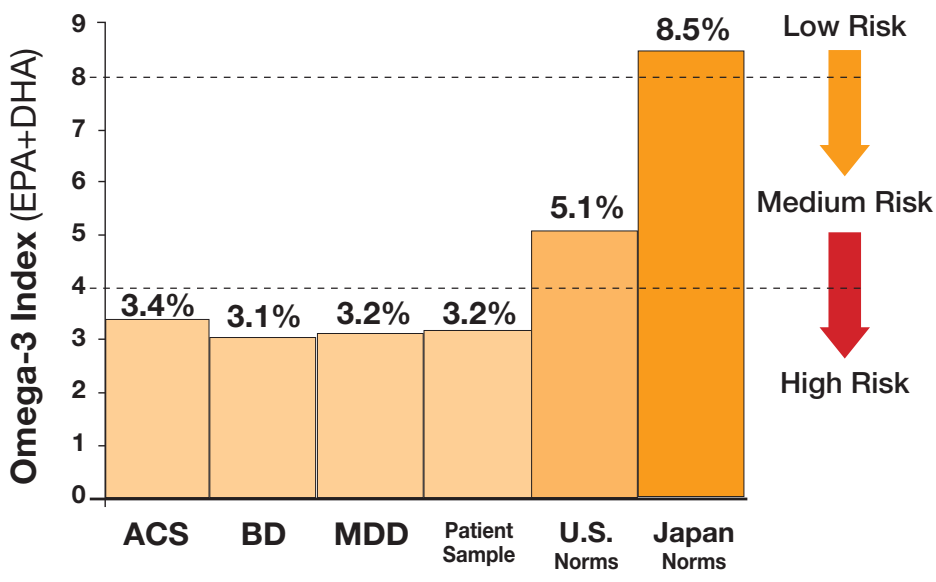
Less cognitive decline

Source: Martek BioSciences

The Omega-3 Index® measures a person's **DHA** and **EPA** levels.

Research indicated a **correlation** between **lower DHA+EPA** levels and risk for certain disorders.

Omega-3 Index In Brain, Heart Patients



- **ACS** = Acute Coronary Syndrome
- **BD** = Bipolar Disorder
- **MDD** = Major Depressive Disorder
- **Patient Sample** = Psych patients, Univ. Cininnati College of Medicine
- **U.S. Norms** = American
- **Japan Norms** = Japanese

Source: Messamore E, McNamara RK. "Detection and treatment of omega-3 fatty acid deficiency in psychiatric practice: Rationale and implementation." Lipids in Health and Disease. 2016;(15):25.

BOTANICALS

Botanicals may also enhance brain health.

Ashwagandha

- **Ashwagandha**, an adaptogen with anti-inflammatory, antioxidant and anxiolytic properties, has been indicated in memory and cognitive function.

Rhodiola Rosea

- In various studies, **Rhodiola rosea** root extract helped improve various parameters of brain function, including attention, memory, thought formation, calculating, evaluating, planning and overall learning.

Kesum

- Several parameters of cognitive function improved in a study of **kesum**. The kesum extract group scored higher in overall good mood, short-term memory and IQ.

Schizandra

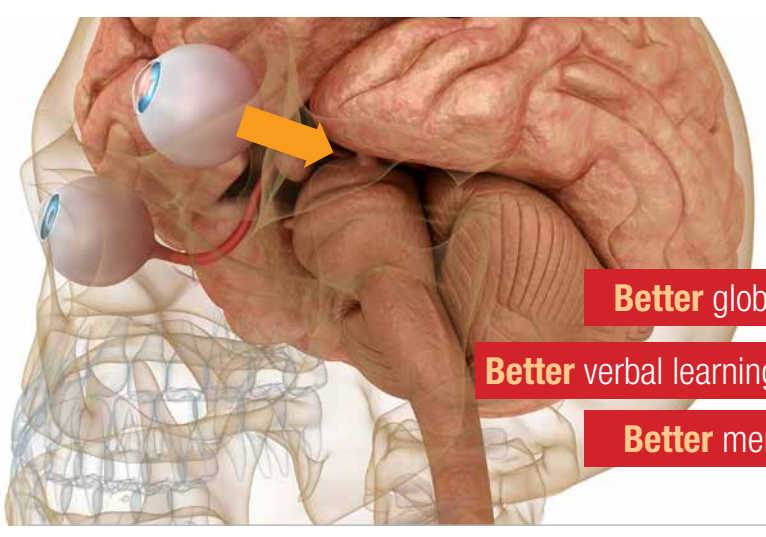
- In human clinical studies, **schizandra** improved concentration, helped fight mental fatigue, increased accuracy of work, and improved mental coordination and endurance.

MACULAR CAROTENOIDS

The macular carotenoids **lutein**, **zeaxanthin** and **mesozeaxanthin** are found in the eye and throughout the central nervous system.

Children and young adults with **higher** macular pigment density performed **better** at memory tasks.

Cognitively normal centenarians have **higher levels** of macular carotenoids in the brain



Macular pigment concentrations

have been significantly associated with:

Better global cognition

Better verbal learning and fluency

Better memory recall

Faster processing speed

Faster perceptual speed

Source: Excerpted from SupplySide West 2017 "Next-Gen Ingredients for Brain Health" Panel presentations from Parris Kidd, Ph.D., Michael Lewis, M.D., Chris Kilham and Nicole Stringham, Ph.D.