

Jellyfish Collagen: 'Super Food' for the Brain

A first-of-its-kind dietary supplement ingredient

All essential and nonessential amino acids + macroelements modulate the gut-microbiome-immune-brain axis to support cognitive function

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Our Amazing Brains

The human brain has ~100 billion neurons that communicate to each other using special chemicals called neurotransmitters that enable us to think, learn and create or recall memories.¹ Many neurotransmitters are made from amino acids.

- The average brain is believed to generate up to 50,000 thoughts per day.²

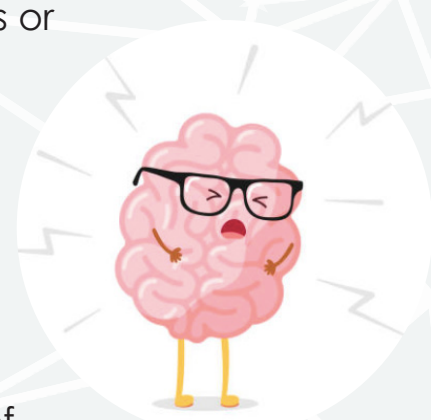


- The brain can process an image the eyes have seen for as little as 13 milliseconds — less time than it takes to blink.³
- The human brain is capable of 1,016 processes per second, making it far more powerful than any computer.⁴

Cognitive Decline May Begin Early

Mild cognitive impairment characterized by problems with memory, language, thinking or judgment may begin early and continue throughout life. A study in *Neurobiology Aging* found that:

- Starting at **age 27** there is a detectable decline in some cognitive skills, such as the ability to make rapid comparisons or remember unrelated information.⁵
- **Age 37** is when average memory declines can be detected.⁶
- **Two-thirds** of Americans experience some level of cognitive impairment at an average age of 70 years.⁷



No Single Cause of Decline

Age, genes and certain lifestyle factors have been linked to an increased risk of cognitive change.

Smoking | Obesity | Depression | Lack of Sleep or Physical Exercise | Poor Diet | Environmental Factors

The Collagen Solution

The benefits of collagen for joints, skin and beauty are well known. Jellyfish collagen (containing types I, II, V) is unlike any other and the only collagen containing all 20 essential and nonessential amino acids and other macroelements. It is especially rich in three amino acids (glutamic acid, serine and tryptophan) that control homeostasis of the gut-microbiome-immune-brain axis.⁸ These amino acids are the building blocks for



serotonin production, induction of immune response, improvement in gut barrier function, for enteric nervous system function and central nervous system communication.⁹ Known as "enterosynes," these molecules modulate the function of the enteric nervous system and drivers of intestinal inflammation leading to associated phenotypes like insulin resistance and hyperglycemia.¹⁰

Introducing KollaJell™

Certified Nutraceuticals, Inc., is the manufacturer of KollaJell, patented peptides of jellyfish collagen types I, II and V that support brain and cognitive health as well as gut and immune health. KollaJell is responsibly sourced from wild caught, edible jellyfish.

kollaJell™

This first-of-its-kind collagen is the only collagen rich in **all 20 essential and nonessential amino acids**, **macronutrients** and **calcium-binding proteins** required for healthy brain and immune system function. KollaJell is believed to have prebiotic properties that modulate the gut microbiota and the enteric nervous system.

All Essential & Nonessential Amino Acids

Amino acids are literally the building blocks of life. In the brain, individual amino acids (e.g., **glutamate**, **glycine**) are neurotransmitters that also form larger neurotransmitters called neuropeptides (e.g. endorphins). Amino acids are essential for the production of many other important molecules, such as **Tryptophan**, which is converted into the neurotransmitter **serotonin**. **Tyrosine** is synthesized into dopamine, norepinephrine and epinephrine.

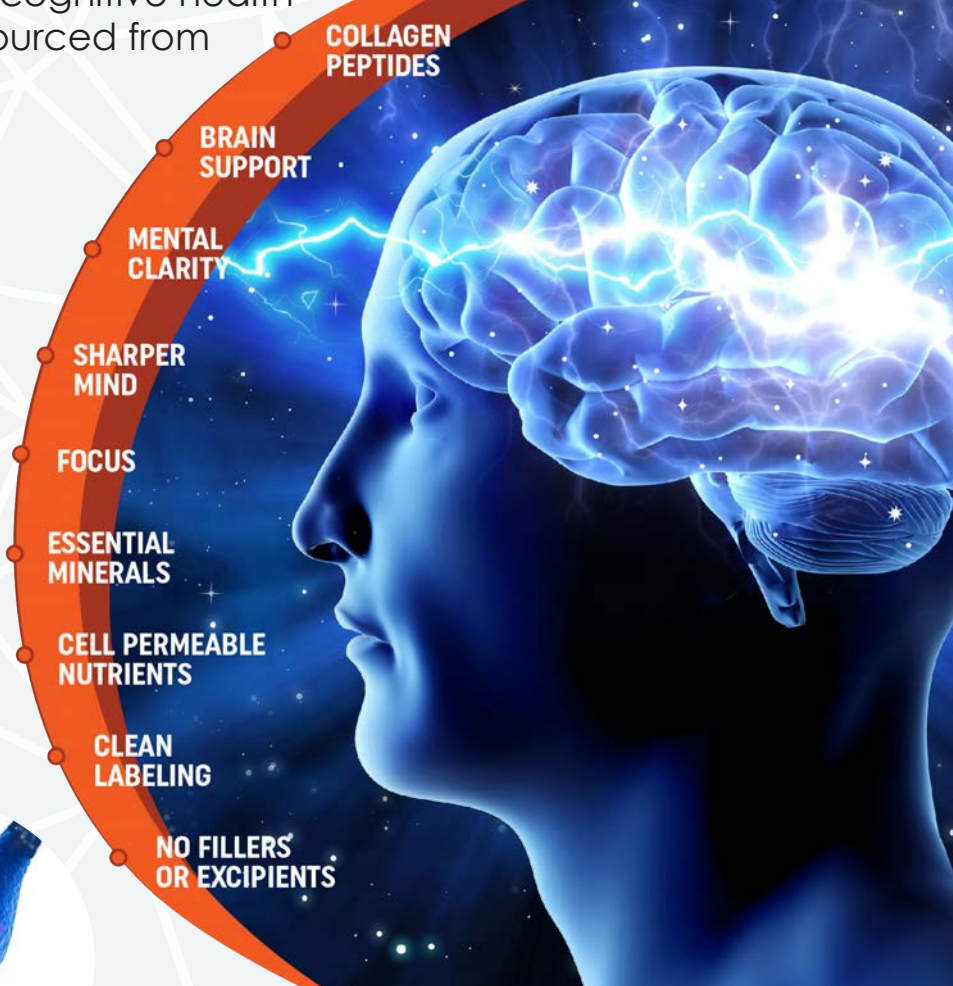
Rich in Macronutrients

KollaJell contains natural neuroprotective antioxidants and high amounts of vital macronutrients for brain health and cognitive function that are not found in any other type of collagen. These include: sodium, potassium, phosphorus, chloride, copper, calcium, magnesium, manganese, sulfur, zinc, iron and silicon. Hydration-enhancing KollaJell holds up to 200% more water than traditional collagen.

Calcium-Binding Proteins

In the brain, calcium has a fundamental role in learning and memory, synaptic transmission, neuronal plasticity, and nerve growth and maintenance. KollaJell preserves calcium-binding proteins that modulate healthy calcium levels and enable these critical physiological processes.

In addition, research shows that KollaJell also supports skin and immune health.¹¹



Non-GMO | Non-Irradiated | Non-ETO | TSE/BSE-Free | Alum-Free | Pesticide-Free | Soy/Gluten-Free

Learn More

KollaJell can be formulated into most foods, beverages and supplements. Visit us at www.certifiednutra.com.



1-4 72 Amazing Human Brain Facts. San Diego Brain Injury Foundation website. Feb. 2019.
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 8 Dietary Amino Acids and the Gut-Microbiome-Immune Axis: Physiological Metabolism and Therapeutic Prospects. *Comprehensive Reviews in Food Science and Food Safety* 10, 131-22. 2018.
 9 Targeting the Enteric Nervous System to Treat Metabolic Disorders? "Enterosynes" as Therapeutic Gut Factors. *Neuroendocrinology*. 2019.
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