

Helps support cognitive health and brain function

The role of essential fatty acids has received significant support from the scientific literature in the last few years. Though much of the research has highlighted their role in inflammatory processes as well as in cardiovascular health, an increasing number of studies have also focused on the role of Omega-3 fatty acids, particularly DHA, in supporting cognitive and brain health as well, especially in regards to children. This formula, with its DHA ratio at 4 times that of its EPA, is designed to support the specific needs of children as well as the needs of adolescents and adults requiring the effects of DHA on brain function and cognition.

Ingredients: Medicinal

Each softgel contains:

Fish oil (anchovy and/or Salmon and/or sardine and/or tuna body oil)	250 mg
providing:	
Eicosapentaenoic acid (EPA)	25 mg
Docosahexaenoic acid (DHA)	100 mg

Ingredients: Non-medicinal

Stevia rebaudiana leaf, orange flavour, vitamin E, purified water, glycerin, modified corn starch, annatto extract, gelatin.

This product does not contain dairy, egg, gluten, shellfish, sulfites or artificial colours, flavours or preservatives.

Recommended Use

A source of EPA and DHA for the maintenance of good health. Helps support cognitive health and brain function. Helps support the development of the brain, eyes, and nerves in children up to 12 years of age.

Recommended Dose

Children aged 1 – 13: Take 1 softgel twice daily.

Adults and adolescents 14 years and older: Take 2 softgels twice daily.

Dosage Form Description

Orange chewable soft gelatin capsule with a frosted finish look containing a clear light yellowish to orange oil with white precipitate, creamy orange taste and odour.

Packaging

Available in bottles of 180 softgels.

Stability

Shelf-life of three years if stored in a cool, dry place.

Ingredient Description

Omega-3 fatty acids, EPA and DHA, consist of the all cis forms of 5, 8, 11, 14, 17-eicosapentaenoic acid and 4, 7, 10, 13, 16, 19-docosahexaenoic acid, respectively. Omega-3 fatty acid products may be found with DHA as the predominant fatty acid, EPA as the predominant fatty acid, or mixtures of DHA and EPA in varying combinations.

Docosahexaenoic acid (DHA) is an omega-3 fatty acid found in cold water fatty fish. DHA has been shown to be particularly important for fetal brain development, optimal development of motor skills and visual acuity in infants, lipid metabolism in children and adults, and cognitive support in the elderly. DHA is the predominant omega-3 fatty acid found in the brain. It represents about 95-97% of all omega-3 fatty acids in the brain and 93% of all the omega-3 fatty acids in the eye (retina).

Eicosapentaenoic acid (EPA) is one of several biologically active omega-3 fatty acids in humans. Found in cold water fatty fish, along with docosahexaenoic acid (DHA).



Reason for Combination

EPA and DHA are "super unsaturated" fatty acids that cannot be produced by the body. Omega-3 fatty acids are abundant in the most biochemically active tissues in the body such as brain cells, synapses, adrenal and sex glands and the retina.

The body cannot produce, nor can it convert omega-6 fatty acids, which are plentiful in the Western diet, into omega-3 fatty acids.

EPA and DHA molecules help prevent aggregation of saturated fatty acids and cholesterol and also appear to lower fibrinogen levels in arteries. Series 3 prostaglandins, made from EPA, help prevent clot formation and lower blood pressure by blocking the over-production of Series 2 prostaglandins. Omega-3 fatty acids are important for parts of the brain used for memory, learning and reasoning. When omega-3 fatty acids are not consumed in sufficient amounts, these functions may be impaired.

It is known that children with ADHD are more likely to show symptoms of low omega-3 levels (eg. dry skin, dry hair, excessive thirst) and have lower levels of omega-3 in their blood than children without ADHD.

There is also evidence that increasing omega-3 levels reduces the severity of ADHD-type behaviour, such as inattention, in children and adolescents.

The significantly higher ratio of DHA to EPA in this formula reflects the accrued needs of infants and children for DHA versus EPA. Indeed, research has highlighted that including DHA in the diet is the most reliable way to ensure that DHA is available to support optimal brain and eye development and function.

Higher levels of DHA are associated with higher scores on a listening comprehension and vocabulary test in preschool children.

Primary Function and Mechanism of Action:

Helps support cognitive health and brain function. Helps support the development of the brain, eyes, and nerves in children up to 12 years of age. A source of EPA and DHA for the maintenance of good health.

References

- Aslan, A. and Triadafilopoulos, G. Fish oil fatty acid supplementation in active ulcerative colitis. *American Journal of Gastroenterology* 1992; 87: 432-437.
- Burgess J, Stevens L, Zhang W, Peck L. Long-chain polyunsaturated fatty acids in children with attention-deficit hyperactivity disorder. *Am J Clin Nutr.* 2000; 71(suppl):327S-330S.
- Calder PC. Dietary modification of inflammation with lipids. *Proc Nutr Soc.* 2002 Aug; 61(3):345-58.
- Fenton WS, Dicerson F, Boronow J, et al. A placebo controlled trial of omega-3 fatty acid (ethyl eicosapentaenoic acid) supplementation for residual symptoms and cognitive impairment in schizophrenia. *Am J Psychiatry.* 2001;158(12):2071-2074.
- Fotuhi M, Mohassel P, Yaffe K. Fish consumption, long-chain omega-3 fatty acids and risk of cognitive decline or Alzheimer disease: a complex association. *Nat Clin Pract Neurol.* 2009 Mar; 5(3):140-52. Review.
- Frangou S, Lewis M, McCrone P et al. Efficacy of ethyleicosapentaenoic acid in bipolar depression: randomised doubleblind placebo-controlled study. *Br J Psychiatry.* 2006;188:46-50

- Hamazaki T, Hirayama S. LETTER: The effect of docosahexaenoic acid-containing food administration on symptoms of attention deficit/hyperactivity disorder-a placebo-controlled double-blind study. *Eur J Clin Nutr.* 2004;58(5):838.
- Hirayama S, Hamazaki T, Terasawa K. Effect of docosahexaenoic acid-containing food administration on symptoms of attention deficit/hyperactivity disorder - a placebo-controlled double-blind study. *Eur J Clin Nutr.* 2004;58(3):467-73.
- Hoffman DR, Boettcher JA, Diersen-Schade DA. Toward optimizing vision and cognition in term infants by dietary docosahexaenoic and arachidonic acid supplementation: a review of randomized controlled trials. *Prostaglandins Leukot Essent Fatty Acids.* 2009 Aug-Sep;81(2-3):151-8. Epub 2009 Jun 7.
- Iribarren C, Markovitz JH, Jacobs Jr DR, Schreiner PJ, Daviglus M, Hibbeln JR. Dietary intake of n-3, n-6 fatty acids and fish: Relationship with hostility in young adults - the CARDIA study. *EJCN.* 2004;58:24-31
- Madden SMM, Garrioch CF, Holub BJ. Direct diet quantification indicates low intakes of (n-3) fatty acids in children 4 to 8 years old. *J Nutr.* 2009;139:528-532.
- Richardson A, Puri B. A randomized double-blind, placebo-controlled study of the effects of supplementation with highly unsaturated fatty acids on ADHD-related symptoms in children with specific learning difficulties. *Prog Neuropsychopharmacol Biol Psychiatry.* 2002;26:233-9.
- Richardson, A.J. and Puri, B.K. A randomized double-blind, placebo-controlled study of the effects of supplementation with highly unsaturated fatty acids on ADHD-related symptoms in children with specific learning difficulties. *Journal of Progress in Neuro-Psychopharmacology & Biological Psychiatry.* 2002; 26: 233-239.
- Ruggiero C, Lattanzio F, Lauretani F, Gasperini B, Andres-Lacueva C, Cherubini A. Omega-3 polyunsaturated fatty acids and immune-mediated diseases: inflammatory bowel disease and rheumatoid arthritis. *Curr Pharm Des.* 2009;15(36):4135-48. Review
- Simopoulos, Artemis P. Omega-3 Fatty Acids in Inflammation and Autoimmune Diseases. *Journal of the American College of Nutrition*, Vol. 21, No. 6, 495-505 (2002)
- Stevens L, Zentall S, Deck J, Abate M, Watkins B, Lipp S, Burgess J. Essential fatty acid metabolism in boys with attention deficit hyperactivity disorder. *Am J Clin Nutr.* 1995;62:761-8.
- Stevens L, Zhang W, Peck L, Kuczek T, Grevstad N, Mahon A, Zentall S, Arnold L, Burgess J. EPA supplementation in children with inattention, hyperactivity, and other disruptive behaviors. *Lipids.* 2003;38:1007-21.
- Voigt R, Llorente A, Jensen C, Fraley J, Berretta M, Heird W. A randomized, double-blind, placebo-controlled trial of docosahexaenoic acid supplementation in children with attention deficit/hyperactivity disorder. *J Pediatr.* 2001;139:189-96.
- www.naturaldatabase.com "Fish Oils" (as of May 2007).
- Lauritzen L, et al. The essentiality of long chain n-3 fatty acids in relation to development and function of the brain and retina. *Prog Lipid Res.* 2001. 40:1-94. (Calculated using Table 1 data. 22:6n-3/Total n-3)
- Uauy R, et al. Essential fatty acids in visual and brain development. *Lipids.* 2001. 36:885-95.
- Martinez M. Tissue levels of polyunsaturated fatty acids during early human development. *J Pediatr.* 1992. 120:S129-38.
- Unnane SC, et al. Breast-fed infants achieve a higher rate of brain and whole body docosahexaenoate accumulation than formula-fed infants not consuming dietary docosahexaenoate. *Lipids.* 2000. 35:105-11.
- Engler MM, et al. Docosahexaenoic acid restores endothelial function in children with hyperlipidemia: results from the EARLY study. *Int J Clin Pharmacol Ther.* 2004. 42:672-679.

PRODUCT CODE: 403 635 - 180 Softgels

RX BALANCE

6 Commerce Crescent, Acton, ON L7J 2X3
1-877-929-2548

