

ORTHOMEGA™ PEARLS

ORTHO
MOLECULAR
PRODUCTS®
Because Efficacy Matters®



CLINICAL APPLICATIONS

- Supports Healthy Cognitive Function and Healthy Brain Development in Children
- Supports Healthy Skin, Joints and Connective Tissue
- Increases Visual and Ocular Health
- Helps Maintain a Normal Inflammatory Response and Strengthens Immune Function

CARDIOVASCULAR HEALTH

Orthomega™ Pearls provide omega-3 fish oil in easy to take chewable soft gel pearls for children's health and wellness needs. While the importance of omega-3 fatty acids for adults is well known, children also require adequate amounts of these essential fats for healthy brain development, vision, skin and joints and to support a normal inflammatory response. With over 10,000 published studies in the last three decades, EPA and DHA from fish oil are among the most researched natural ingredients available and have a long history of safety and efficacy. In addition, Orthomega™ Pearls are sourced from the world's least industrialized coastline in Chile, where cold, fresh water provides the cleanest, most sustainable source of fish in the world. Orthomega™ Pearls provides 105 mg of EPA and 185 mg DHA per 4 soft gels as natural triglycerides, the preferred form with superior absorption, in a delicious fruity-orange flavor. Vitamin E (as mixed tocopherols) is added to ensure maximum purity and freshness. In addition, this exclusive fish oil is enzymatically cleaned, vacuum-distilled, and independently tested to ensure heavy metals, pesticides and PCBs are removed to undetectable levels.

Overview

Omega-3 fatty acids are essential cornerstones of human nutrition. They are deemed "essential" because we need them for proper health—much like certain vitamins and minerals, but cannot produce them on our own. We must therefore consume these fats through diet or supplementation. Omega-3 fatty acids are required for a number of body functions, from proper blood flow to brain development. These long-chain fatty acids are integral components of tissues and organ systems throughout the body, including the heart, skin, joints, eyes and immune system. In nature, omega-3 fatty acids occur as ALA

(alpha linoleic acid), found mostly in plants, and as long-chain EPA and DHA, which primarily originate from cold-water fish. The body is able to slowly convert the shorter chain ALA to the more active long-chain, EPA and DHA. However, many people lack the enzymes delta-5 and delta-6 desaturase necessary to make the conversion, making a higher dietary intake of EPA and DHA necessary. In addition, major changes in modern diet, both in adults and children, over last century have led to a decrease in the general consumption of omega-3 fats, and a dramatic increase in the dietary ratio of omega-6:omega-3. Since omega-3 fatty acids are known to benefit a healthy brain, cognition, vision and inflammatory response, achieving the proper balance of omega-3s has become an important health strategy. This requires supplementation for most people.¹

Fish Oil Delivery – Triglycerides vs. Ethyl Esters[†]

While the amount of EPA and DHA provided in a fish oil product is important for efficacy, the type of fish oil delivered is another significant factor in defining fish oil effectiveness. The human body is accustomed to digesting and absorbing EPA and DHA in the natural triglyceride form. Even though triglyceride-based fish oils are the preferred form for superior fish oil absorption, the vast majority of fish oil products available on the market are in the ethyl ester form. While ethyl esters allow for higher concentrations of EPA and DHA to be achieved, their unusual structure is resistant to the digestive enzymes (lipases) that enable fat breakdown. In a study comparing EPA and DHA digestion in both the natural triglyceride and ethyl ester form, five common digestive lipase enzymes were shown to more easily digest fish oil in the natural triglyceride as compared to the ethyl ester substrate.² A review of the existing literature has shown that fish oil provided in the natural triglyceride

[†] These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

form is more efficiently digested and is 70% more absorbable than the ethyl ester form.

Omega-3 Depletion[†]

An accumulating body of research shows that the typical modern diet does not provide a sufficient amount of omega-3 fatty acids for optimal health and insufficient conversion of ALA to the active EPA and DHA may reduce the amount available for use in organs and tissues. Symptoms of omega-3 deficiency are common and often overlooked. These may include dry, itchy or flaky skin, poor sleep quality, poor circulation, eye discomfort, and mood imbalance.³

Research[†]

As in adult populations, omega-3 fatty acids have been shown to be beneficial to children's circulatory and cardiovascular health. In a case-control study on pediatric patients who received n-3 PUFA for 6 months, or another therapy alone for 6 months, as well as age matched normal individuals (group 3, n = 6), and echocardiographic parameters were significantly improved in patients receiving omega-3 fish oil.⁴ Omega-3 blood levels have also been found to be directly related to improved measures of cognition and behavior among healthy children with below average reading ability in a recent UK study.⁵ A study (90 children randomized to consume supplements high in EPA, DHA or linoleic acid [control] for 4 months, each in a crossover design) found that increased erythrocyte DHA and EPA via dietary supplementation improved behavior, attention and literacy in the children.⁶ In addition, a systematic search of the 15 relevant publications studies of brain activity reported benefits of DHA supplementation and over half of the studies reported a favorable role for DHA or long chain omega-3 fatty acids in at least one area of cognition or behavior.⁷ A study evaluating the long-term effects of EPA and DHA on visual development in 136 school-age Inuit children exposed to high levels of n-3 PUFAs during gestation, found beneficial effects of DHA intake during gestation on visual acuity at school age.⁸

Directions

1-4 soft gel capsules per day in divided doses or as recommended by your health care professional. Capsules may be chewed or swallowed. Chewed capsules can be swallowed or expelled.

Does Not Contain

Gluten, corn, yeast, artificial colors and flavors.

Cautions

If you are pregnant or nursing, consult your physician before taking this product.

Supplement Facts^{v1}

Serving Size 4 Soft Gel Capsules
Servings Per Container 30

4 soft gel capsules contain	Amount Per Serving	% Daily Value
Calories	15	
Calories from fat	10	
Total fat	1 g	2%*
DHA (Docosahexaenoic Acid)	185 mg	**
EPA (Eicosapentaenoic Acid)	105 mg	**

* Percent Daily Values are based on a 2,000 calorie diet.
** Daily Value not established

ID# 858120 120 Soft Gel Capsules

References

1. Connor WE. Importance of n-3 fatty acids in health and disease. *Am J Clin Nutr.* 2000 Jan;71(1 Suppl):171S-5S.
2. Yang LY, Kuksis A, Myher JJ. Lipolysis of menhaden oil triacylglycerols and the corresponding fatty acid alkyl esters by pancreatic lipase in vitro: a reexamination. *J Lipid Res.* 1990 Jan;31(1):137-47.
3. University of Maryland (UMM).
4. Firuzi O, Shakibazad N, Amoozgar H, Borzoe M, Abtahi S, Ajami G, Ardi P, Miri R. Effects of omega-3 polyunsaturated Fatty acids on heart function and oxidative stress biomarkers in pediatric patients with dilated cardiomyopathy. *Int Cardiovasc Res J.* 2013 Mar;7(1):8-14.
5. Montgomery P, Burton JR, Sewell RP, Spreckelsen TF, Richardson AJ. Low Blood Long Chain Omega-3 Fatty Acids in UK Children Are Associated with Poor Cognitive Performance and Behavior: A Cross-Sectional Analysis from the DOLAB Study. *PLoS One.* 2013 Jun 24;8(6):e66697.
6. Milte CM, Parletta N, Buckley JD, Coates AM, Young RM, Howe PR. Increased Erythrocyte Eicosapentaenoic Acid and Docosahexaenoic Acid Are Associated With Improved Attention and Behavior in Children With ADHD in a Randomized Controlled Three-Way Crossover Trial. *J Atten Disord.* 2013 Nov 8.
7. Kuratko CN, Barrett EC, Nelson EB, Salem N Jr. The relationship of docosahexaenoic acid (DHA) with learning and behavior in healthy children: a review. 2013 Jul 19;5(7):2777-810.
8. Jacques C, Levy E, Muckle G, Jacobson SW, Bastien C, Dewailly E, Ayotte P, Jacobson JL, Saint-Amour D.J. Long-term effects of prenatal omega-3 fatty acid intake on visual function in school-age children. *Pediatr.* 2011 Jan;158(1):83-90, 90.e1.

v2 111115

† These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

EFFICACY
the power of 