Omega + DHA Gummies

Seriously Citrus Flavor

INGREDIENTS
Omega + DHA Gummy Vitamin is a unique combination of Omega-3, Omega-6, and Omega-9 fatty acids from Chia oil and DHA, an Omega-3 from algae. Omega + DHA Gummy Vitamin also contains Vitamin C. Blood concentrations of fatty acids reflect both dietary intake and biological processes.1 Humans can synthesize longer Omega-6 and Omega-3 fatty acids from the essential fatty acids found in the Omega + DHA Gummy.

Omega + DHA Gummy specifically supports heart, brain, eye and joint health by lowering cytokine levels, being the building blocks for repair of brain, cell and organelle membranes and supplying DHA (Docosahexaenoic acid), a major component of the retina needed for its repair.2-4 DHA accounts for 40% of the polyunsaturated fatty acids in the brain and 60% in the retina.5,6 Vitamin C in the Omega + DHA Gummy helps block cholesterol oxidation and is the most prevalent water-soluble antioxidant in the blood serum, in the tissues of the eye and in the brain and joints.7

The Omega + DHA Gummy delivers the Omega-3, alpha linolenic acid and the Omega-6, linoleic acid, which are essential fatty acids that MUST be obtained from the diet. They are a crucial part of human cell membranes. Omega-3 fatty acids help support healthy cholesterol levels, by preventing cholesterol oxidation that leads to fatty artery streaks and restores healthier dietary ratios of Omega-3 to Omega-6 fatty acids that lowers the amounts of fat storage in the liver by stimulating beta oxidation of fatty acids.8,9,10

In terms of joint health, Omega-3 and Omega-6 fatty acids lower cytokines, inhibit catabolic processes and stimulate the anabolic process in the cartilage in the joint. Both Omega-3 and Omega-6 in the Omega + DHA Gummy supply these critically-needed fatty acids.11,12

The DHA in the Omega + DHA Gummy is essential for brain development, repair and key brain functions, including memory recall, mental processing and short and long-term memory. DHA helps lower the key biomarkers, including NFkappaB, COX-2, TNF-alpha, and IL-1beta in brain cells, in joints and in the tissues of the eye.13,14,15

The Omega-6 fatty acid health benefits of the Omega + DHA Gummy helps maintain normal total cholesterol levels and including HDL-cholesterol levels. The Chia Seed Oil in the Omega + DHA Gummy has a well-balanced 3:1 ratio between its Omega-3 (alpha-linolenic) and Omega 6 (linoleic) fatty acids.16,17

BENEFITS
• Omega-3, 6 and 9 fatty acids lower biomarkers COX-2, NFkappA and IL-1B in joint cartilage*.11,12,15
• Omega-3, 6 and 9 fatty acids are essential building blocks for brain cell development and repair*.6,14
• DHA, an Omega-3 fatty acid, is essential for mental processing and memory recall*.14
• DHA plays an essential role in supporting brain neurotransmitter activity*.14
• Vitamin C is the major water-soluble antioxidant in joint synovial fluid.10
• Vitamin C slows cholesterol oxidation for better cardiovascular health*.8,20

EXTENDED BENEFITS
DHA in the Brain, the Retina and the Joints

The Omega + DHA Gummy provides DHA for protection against high levels of biomarkers detrimental to the brain.*2,14 DHA is the major fatty acid in the brain and a structural component of brain cell membranes. Changes in DHA content in membranes lead to changes in the activity of receptors and other proteins associated with brain function. DHA is present in 30-40% of the phospholipids in the gray matter of the cerebral cortex and in the photoreceptors in the retina. An age-related decline in DHA

Supplement Facts
Serving Size 3 Gummies
Servings Per Container 30

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value</th>
</tr>
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<tbody>
<tr>
<td>Calories</td>
<td>30</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
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<tr>
<td>Total Sugars</td>
<td>4g</td>
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<tr>
<td>Includes 4g Added Sugars</td>
<td>8g**</td>
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<tr>
<td>Vitamin C (as ascorbic acid)</td>
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</tr>
<tr>
<td>Sodium</td>
<td>20mg</td>
</tr>
<tr>
<td>Total Omega Oil (from Chia Oil &amp; DHA)</td>
<td>275mg</td>
</tr>
<tr>
<td>Omega-3 (Alpha Linolenic Acid)</td>
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</tr>
<tr>
<td>Omega-6 (Linoleic Acid)</td>
<td>65mg</td>
</tr>
<tr>
<td>Omega-9 (Oleic Acid)</td>
<td>30mg</td>
</tr>
<tr>
<td>DHA (Docosahexaenoic Acid) (from life'sDHA™ algae oil (Schizochytrium sp.))</td>
<td>50mg</td>
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**Percent Daily Values are based on a 2,000 calorie diet.
†Daily Value not established.

Other Ingredients: Glucose syrup, sugar, sucrose, corn starch modified, water, malic acid, natural flavors, sodium citrate, for color (annatto, turmeric), coconut oil, carnauba wax.

Suggested Adult Use: Chew three (3) gummies daily or as recommended by a nutritionally-informed physician. Chew thoroughly before swallowing.

KEEP OUT OF REACH OF CHILDREN
Store in a cool dry place.
life’sDHA™ is a trademark of DSM.

* 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.
occur and this negatively affects neurotransmission and vision. DHA is necessary for the proper formation of phospholipids which are an essential component of the cell membranes of the brain, joint components and heart cells. Omega-3, 6 and 9 fatty acid levels decline with age in the brain, in the joint synovial fluids and in the cells of the heart. Eliminating DHA from the diet dramatically lowers brain concentrations and produces a range of behavioral abnormalities.

Omega-9 Fatty Acids Predominate in Healthy Joint Cartilage
The most prominent fatty acids in joint cartilage, on the other hand, are linoleic acid and oleic acid, an N-9 fatty acid. Joint cartilage of healthy, young mammals contains high levels of Omega-9 fatty acids compared to other fatty acids. Doctors’ Best Omega + DHA Gummy supplies oleic acid, the Omega-9 that is found in healthy joints.

Vitamin C in the Brain, the Retina and the Joint Fluids
The highest concentrations of Vitamin C (ascorbate) in the body are found in the brain. Interestingly, DHA diffuses more easily than ascorbate into the brain, going to the neurons and glial cells where it can again be taken up and retained by the cells. Ascorbate effectively scavenges superoxide radicals, a major byproduct of brain mitochondrial metabolism. Vitamin C in the aqueous compartments of the brain can recycle oxidized Vitamin E back to its reduced form.

Vitamin C as a single antioxidant, helps protect retinal cells from oxidative damage due to its ability to scavenge free radicals. The protective effects of Vitamin C in the eye are likely due to its ability to scavenge singlet oxygen which is the predominant reactive species generated. Treatment with Vitamin C alone lowers oxidative stress in the retina.

Vitamin C is essential for the formation of collagen and proteoglycan in the joints. It is also a cofactor in collagen synthesis, the major protein in joint tissue.

PHARMACOLOGICAL & CLINICAL STUDIES
Forty healthy pregnant women were separated into two groups: a control group with normal feeding and a Chia group with 16 mL chia oil daily from the third trimester of pregnancy until the first six months of nursing. The fatty acid profile of erythrocyte phospholipids, measured at six months of pregnancy, at time of delivery and at six months of nursing, and the fatty acid profile of the milk collected during the first six months of nursing were measured. The Chia group but not the control group, showed a significant increase in ALA (alpha linolenic acid) ingestion and a significant reduction in linoleic acid (LA) ingestion. The milk content of ALA was observed to increase in ALA (alpha linolenic acid) ingestion and a significant reduction in linoleic acid (LA) showed a decrease. DHA levels of milk increased during the first three months of nursing. The study authors concluded that Chia oil consumption during the last trimester of pregnancy and the first three months of nursing increases the milk content of DHA. DHA is crucial for proper feral brain development and Chia oil supplementation increased DHA content in mother’s milk in this study.

Alpha Linolenic acid (ALA) is the precursor of docosahexaenoic acid (DHA) in humans, which is fundamental for brain and visual function in infants, children and adults.

DHA is critical to all aspects of neurodevelopment and brain function, including neurogenesis, neurite proliferation and growth, nerve impulse transmission via the sodium-potassium pump, neuronal integrity and vitality, blood glucose transport and gene expression in the brain. Meta-analyses of human trials have confirmed these neurodevelopmental aspects.

A randomized, controlled trial was conducted to measure the effects of taking a DHA-rich oil or corn oil for twenty weeks on cerebrovascular function, mood and cognitive performance in adults from forty to eighty-five years old. The primary outcome, cerebrovascular responsivity (CVR) increased 26% in women. Neurovascular coupling is the connection between brain neurons and their vascular blood supply, which is their energy source required to function properly. Neurovascular coupling increased significantly only in men. The study authors concluded that “These preliminary observations indicate that DHA supplementation has the potential to enhance blood flow in the brain in response to cognitive stimuli.”

A six-month double-blind, randomized controlled trial of fifty people aged sixty-five years or older with mild cognitive impairment (MCI) were given a supplement rich in DHA (1.55 g DHA plus 0.45 g EPA) or the n-6 PUFA linoleic acid (LA). Improved mood scores were correlated with increased DHA plus small amounts of EPA. Improved self-reported physical health was reported in the group given DHA. Increased intakes of DHA benefited mood and physical health in older people with MCI.

Clinical trials with DHA-rich oil show comparable efficacy to fish oil for mitigating cardiovascular risk factors by lowering plasma triglycerides and oxidative stress. Oil from both fish and microalgae sources result in increased circulation of EPA, DHA and Omega-3. 34-36 Significantly, DHA-rich oil formulations are equally protective compared to fish oil in nearly all human trials conducted. Published clinical studies indicate beneficial effects of DHA-rich oil for cardiovascular health in both men and women, producing significant decreases in plasma triglyceride levels. Results were comparable to fish oil in effects, bioavailability and safety profiles. In direct studies, algae oil cardioprotective effects were virtually identical to fish oil. DHA is particularly important for visual function, cognitive development and maintenance, learning and memory and immune system support. The effects of a DHA-rich oil on blood lipids and safety parameters were tested in a double-blind, placebo-controlled study. 114 vegetarians with normal blood lipid levels were given daily microalgae oil or a placebo oil for 8 weeks. DHA supplementation decreased plasma triglycerides by 23% and reduced cardiovascular risk factors by lowering plasma triglycerides.

A multicenter, double-blind, randomized, placebo-controlled, crossover trial was performed on 133 patients with radiographically verified symptomatic osteoarthritis of the hip or knee joints. The patients were treated with Vitamin C or a placebo daily for 14 ± 3 days, separated by 7 ± 3 days wash out. The main outcome measured was the difference on the visual analog scale (VAS) score for pain. The secondary outcomes were Lequesne score for function and patient preference. The Vitamin C group had lower blood serum cytokine markers.

Omega-3 and Omega-6 dietary intake ratios have changed dramatically in the 20th century. The estimated per capita consumption of soybean oil (Linoleic acid) an Omega-6 fatty acid increased about 1,000-fold from 1909 to 1999. The increased consumption of Linolenic acid, mainly from soybean oil, has likely decreased tissue concentrations of EPA and DHA during the 20th century.

* 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.
SCIENTIFIC REFERENCES


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