

OmegAvail™ Synergy



Comprehensive formulation of essential fatty acids

By David M. Brady, ND, DC, CCN, DACBN & Caitlin Higgins, MS, CNS

THIS INFORMATION IS PROVIDED FOR THE USE OF PHYSICIANS AND OTHER LICENSED HEALTH CARE PRACTITIONERS ONLY. THIS INFORMATION IS INTENDED FOR PHYSICIANS AND OTHER LICENSED HEALTH CARE PROVIDERS TO USE AS A BASIS FOR DETERMINING WHETHER OR NOT TO RECOMMEND THESE PRODUCTS TO THEIR PATIENTS. THIS MEDICAL AND SCIENTIFIC INFORMATION IS NOT FOR USE BY CONSUMERS. THE DIETARY SUPPLEMENT PRODUCTS OFFERED BY DESIGNS FOR HEALTH ARE NOT INTENDED FOR USE BY CONSUMERS AS A MEANS TO CURE, TREAT, PREVENT, DIAGNOSE, OR MITIGATE ANY DISEASE OR OTHER MEDICAL CONDITION.

OmegAvail™ Synergy is composed of a unique blend of omega 3-6-7-9 essential and non-essential fatty acids (FAs). FAs may be one of the most important dietary supplements as they are foundational for promoting optimal health. Every cell in the body needs FAs to function properly, as they are essential in the process of rebuilding and synthesizing new cells. FAs have a desirable effect on many conditions; they support heart health, normal cholesterol and triglyceride levels, immune system function, brain, and nervous system health, joint mobility, healthy skin and hair, and healthy modulation of the inflammatory response.¹⁻³

The omega-3 (n-3) fatty acids in this formula are derived from fish oils in their natural triglyceride (TG) form – the same way they naturally occur in fish. Most mass-marketed fish oil supplements come in the synthetic ethyl ester (EE) form. Compared to the true TG form, the EE form is more convenient to produce but not as readily recognized, digested, and assimilated by the body, and is more prone to oxidation and production of free radicals. In order to receive the maximum benefits from omega-3 fish oil supplementation, it is critical that these fats are provided in the most bioavailable and bioidentical form, the same form that is naturally found in fish and in the tissues of the human body. The TG form is broken down 12-15% faster than the EE form by pancreatic lipase enzyme, which is also included in this formula for enhanced digestion and absorption of fish oils. Because the natural TG form is most easily digested and available for the body to use, this TG advantage is effective at promoting healthy n-3 levels in the body.

This unique, synergistic formula provides not only the beneficial omega-3s eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) from fish oils, but a blend of other FAs including gamma-linolenic acid (GLA) from the oil of borage seeds, as well as palmitoleic acid (PA), and oleic acid (OLA) from organic virgin macadamia nut oil and borage oil for a spectrum and balance of high-quality, health-promoting fatty acids.

Omega-3 Fatty Acids

EPA is beneficial for supporting healthy brain function, balanced emotions, skin health, normal cholesterol levels, and a proper inflammatory response.¹⁶⁻¹⁹ DHA supports proper brain development and function, visual acuity, maintenance of normal triglyceride levels and blood pressure, eye development, and a healthy pregnancy for expectant mothers.^{14, 20-23} EPA and DHA are found in fresh deepwater fatty fish, fish oil, and certain vegetable oils such as canola oil, flaxseed oil, and walnut oil. Omega-3 EFAs have been shown to create more stable arterial plaque benefiting heart health compared to the omega-6 fatty acids that are derived from unsaturated vegetable oils such as soybean, corn, sunflower, and cottonseed oils.^{1,4}

A meta-analysis showed that EPA and DHA supplementation reduced serum triglycerides and raised high-density lipoprotein (HDL) cholesterol.⁵ In patients with hypertriglyceridemia taking a statin, 4 g/d of EPA significantly reduced the incidence of major cardiovascular events, suggesting cardioprotective effects.^{6,24} Moreover, n-3 polyunsaturated fatty acids (PUFAs) with EPA levels $\geq 60\%$ at a dosage of ≤ 1 g/d demonstrated therapeutic effects on the improvement of depression in a recent meta-analysis due to their anti-inflammatory properties.¹⁸ Inflammation has been shown to contribute to depressive disorders; both EPA and DHA have been shown to decrease the production of inflammatory cytokines TNF-alpha, IL-1beta, IL-2, and IL-6 that are related to depression.¹⁸ According to a review, high levels of fish consumption and n-3 supplementation demonstrated protective effects against Alzheimer's disease, decreased the incidence of Parkinson's disease (PD) as well as depressive symptoms associated with PD, and improved the quality of life in patients with multiple sclerosis.²⁵ Compared with the control group who received corn oil, test subjects with rheumatoid arthritis (RA) who supplemented 130 mg/kg/day of body weight of n-3 fatty acids for 30 weeks, had significant reductions in pain, morning stiffness, and tender joints.⁸

Benefits*:

- Promotes cardiovascular health⁴
- Supports healthy cholesterol and triglyceride levels⁵
- Reduces the risk of blood clot formation⁶
- Supports healthy blood pressure⁶
- Promotes healthy blood sugar levels⁶
- Aids in the prevention of arthritis⁶⁻⁹
- Improves neurological function and brain health⁶
- Supports immune health and healthy inflammatory response^{10,11}
- Provides support for eczema and psoriasis¹²
- Promotes hormonal balance¹³
- Supports eye health and improves dry-eye^{14,15}
- Supports mental health and balanced emotions^{16,17}

Omega-6 Fatty Acids

OmegAvail™ Synergy contains GLA, an n-6 fatty acid from borage seed oil that acts as an anti-inflammatory agent, essential for smooth and healthy skin.²⁶ GLA controls the body's production of prostaglandins which are chemical messengers that regulate processes in the body such as the reproductive cycle as well as female hormonal balance.¹³ When GLA is supplied exogenously, dihomo gamma-linolenic acid (DGLA), which possesses potent anti-inflammatory properties, can be synthesized in the skin.¹² In patients with RA, daily supplementation of borage seed oil containing 1.4 g of GLA for 24 weeks had significantly reduced swelling and tenderness in their joints compared with the placebo group.^{7,8} Animal studies reveal that along with fish oil, borage seed oil supplementation significantly altered both the levels and composition of fatty acid derivatives in the skin, suggesting that supplementation with fish oil and GLA-rich oils may help with inflammatory skin disorders such as eczema, psoriasis, and atopic dermatitis.¹² In an RCT of women with clinical presentations of dry and sensitive skin, 12 weeks of borage oil attenuated the inflammatory response to a skin irritant, decreased transepidermal water loss, and significantly improved reduced roughness and scaling of the skin.¹²

Omega-7 and Omega-9 Fatty Acids

Palmitoleic acid (POA) and oleic acid (OA) are touted for their ability to support healthy hair, skin, and nails, as well as healthy immune and nervous systems and balanced blood sugar levels. Additionally, due to its high concentration of POA (20%), macadamia oil supplementation has been shown to decrease serum TG and cholesterol levels, reducing cardiovascular disease risk.²⁷ Macadamia nut oil is also a rich source of oleic acid (60%) and is the main characteristic of the Mediterranean diet, and research shows that adherence to this OA-rich diet may reduce pain in those with inflammatory arthritis via mediating anti-inflammatory effects by inhibiting reactive oxygen species, MAPK and NF-kB pathways, as well as by increasing leukotriene A3 levels, a potent inhibitor of LTB4.^{6,9}

SCD1, the enzyme responsible for the biosynthesis of monounsaturated fatty acids (MUFA) (e.g., OA and POA) from saturated fatty acids (SFA), and with respect to the central nervous system, has been shown to increase myelin basic protein levels, suggesting OA's role as a neuroactive fatty acid. Moreover, OA activates the PPAR-alpha nuclear receptors which are responsible for neuronal differentiation and upregulation of neuron-specific proteins associated with axonal and dendritic growth, and also inhibits the astrocytic gap junction permeability, with respect to the modulation of glial cells.⁹ Further research shows that maintenance of adequate MUFA levels, and a balanced MUFA to SFA ratio, is essential for preserving liver and intestinal function, as well as for modifying plasma lipid and lipoprotein composition shown to reduce inflammation, oxidative stress, and ameliorate glucose homeostasis and blood pressure.⁶ Consumption of OA has been shown to reduce the risk of gastric-duodenal ulcers and improved pancreas and liver secretory activity, as well as prevent methionine- and choline-deficient diet-induced injury such as steatohepatitis.⁶

In a human cell culture study, POA promoted decreased lymphocyte proliferation characterized by decreased Th1 and Th17 response, and reduced the production of IL-6, IFN-gamma, TNF-alpha, and IL17A, whereas OA increased lymphocyte proliferation through IL-2 production and Th2 response.²⁷ *In vitro* studies demonstrate POA to possess anti-inflammatory effects on endothelial cell function via downregulating MCP-1, IL-6, COX-2, and NF-kB gene expression, and upregulating PPAR-alpha expression.¹¹ In an animal model, POA administration was able to block streptokinase-mediated activation of plasminogen and thereby preventing invasive group A *streptococcal* infections.²⁸ In another *in vitro* study, POA significantly increased basal and insulin-stimulated glucose uptake and GLUT4 mRNA levels in white fat cells, suggesting POA may improve glucose homeostasis and metabolism systemically, not only in skeletal muscle.²⁹

Supplement Facts

Serving Size 2 softgels
Servings Per Container 90

Amount Per Serving	% Daily Value	Amount Per Serving	% Daily Value
Calories	20	Omega-7 Fatty Acids	
Total Fat	2 g 3%*	Palmitoleic Acid	85 mg †
Cholesterol	less than 5 mg <2%	(from virgin organic macadamia nut oil)	
Omega-3 Fatty Acids (from fish oil)		Omega-9 Fatty Acids	
EPA (Eicosapentaenoic Acid)	270 mg †	Oleic Acid	400 mg †
DHA (Docosahexaenoic Acid)	180 mg †	(from virgin organic macadamia nut oil and borage oil)	
Omega-6 Fatty Acids		*Percent Daily Values are based on a 2,000 calorie diet.	
GLA (Gamma Linolenic Acid)	160 mg †	†Daily Value not established.	
(from borage oil)			

Other Ingredients: Bovine gelatin, purified water, glycerine, annatto (color), natural lemon flavor, DeltaGold® tocotrienols, lipase.

Contains fish (Alaska pollock) and tree nuts (macadamia nuts).

Recommended Use:

- As a dietary supplement, take two softgels per day with meals, or as directed by your health care practitioner.

For a list of references cited in this document, please visit:

http://catalog.designsforhealth.com/assets/itemresources/OmegAvail_Synergy_References.pdf

DeltaGold® is a registered trademark of American River Nutrition, LLC and protected by US Patent Numbers 6,350,453 and 8,586,109.

*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.

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at www.designsforhealth.com.