

GENESTRA **BRANDS**[®]

Super EFA Forte Capsules + D

Concentrated triglyceride fish oil plus vitamin D in a convenient softgel format

- Double-potency formula offering 475 mg of EPA and 325 mg of DHA per softgel
- Helps support cognitive and cardiovascular health, while maintaining immune function and bone health
- Assists in preventing vitamin D deficiency with 1,000 IU per softgel

Super EFA Forte Capsules + D offer a high-potency fish oil formula providing EPA and DHA in a bioavailable triglyceride form. Each exceptionally pure softgel offers 800 mg of EPA and DHA to support cognitive and cardiovascular health. DHA is one of the most important omega-3 fatty acids in the brain, where it helps regulate membrane fluidity, the formation of synapses and cytokine production.¹ Clinical research has demonstrated that DHA can support cognitive health, including episodic memory and learning in older adults.² DHA also helps support the development of the brain, eyes and nerves in children up to 12 years of age. EPA and DHA support cardiovascular health by promoting healthy lipid metabolism, heart rates, and platelet and endothelial function.³ Triglyceride fish oils have also demonstrated greater bioavailability than ethyl esters in clinical research, with one study reporting a significantly higher increase in the omega-3 index after six months of supplementation than an identical dose of ethyl esters.^{4,5} Vitamin D is also included for its well-recognized effects in maintaining immune function and bone health.



EACH SOFTGEL CONTAINS:

Fish Oil (Anchovy, Sardine and Mackerel) Yielding	1430 mg
	175
EPA (Eicosapentaenoic Acid)	
DHA (Docosahexaenoic Acid)	325 mg
Total Omega-3	
Vitamin D (cholecalciferol)	
Non-Medicinal Ingredients: Capsule (bovine gelatin, gl sweet orange oil, mixed tocopherols concentrate Contains: Fish	lycerin, purified water),

Recommended Dose

Adults, Adolescents and Children (6 years and older): Take one softgel daily or as recommended by your healthcare practitioner.

Size 60 Softgels **Product Code** 10394

NPN 80085516





REFERENCES

- Dyall, SC. Front Aging Neurosci. 2015; 7: 52. Yurko-Mauro, K, et al. Alzheimers Dement. 2010; 6(6): 456-64. Kris-Etherton, PM, Harris, WS, Appel, LJ, American Heart Association. Circulation. 2002; 106(21): 2747–57. Dyerberg, J, Madsen, P, Møller, JM, Aardestrup, I, Schmidt, EB. Prostaglandins Leukot Essent Fatty Acids. 2010; 83(3): 137-41. Neubronner, J, Schuchardt, JP, Kressel, G, Merkel, M, von Schacky, C, Hahn, A. Eur J Clin Nutr. 2011; 65(2): 247-54.

Scientific Rationale:

Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are omega-3 polyunsaturated fatty acids.¹ As they cannot be made by the body, they must be supplied from the diet, and are primarily found in fatty fish.¹ A shorter omega-3 fatty acid, alpha-linolenic acid, is more prevalent in the diet (from green leafy vegetables, flaxseed, perilla and walnuts), and can be metabolized to produce EPA and DHA; however, this pathway is not efficient.^{1,2} As it may be difficult to consume adequate levels of EPA and DHA through the diet alone, supplementation with a high-quality fish oil can help increase EPA and DHA intakes without the risk of environmental contaminants associated with certain fish species.^{2,3}

Modern Western diets typically provide higher levels of omega-6 fatty acids than omega-3 fatty acids.¹ In turn, these diets have resulted in a higher proportion of omega-6 fatty acids in the phospholipids of many cells.⁴ Specifically, cells involved in the inflammatory response have been found to contain high levels of arachidonic acid (AA, an omega-6 fatty acid).⁵ Importantly, this fatty acid distribution can be impacted by dietary intakes, as EPA and DHA can partially replace omega-6 fatty acids in the membranes of cells throughout the body.¹ In addition, as these fatty acid types differ metabolically and functionally, it is important to have a balanced dietary intake.¹

While AA can be metabolized to produce pro-inflammatory eicosanoids, such as prostaglandin E2 and leukotriene B4, EPA and DHA have been found to decrease the production of these metabolites.⁴ Furthermore, emerging evidence suggests that EPA and DHA can be metabolized to produce lipid mediators known as resolvins, as well as related compounds including protectins.⁴ These novel compounds have been demonstrated in preclinical research to be anti-inflammatory, inflammation-resolving and immunomodulatory.⁴ Research suggests that EPA and DHA may support a wide variety of health functions, including cardiovascular health, due to these anti-inflammatory effects.4

DHA is particularly abundant in the cerebral cortex, retina, testis and sperm.¹ Considered one of the most important omega-3 fatty acids in the brain, DHA may support cognitive health by mediating membrane fluidity, the formation of synapses, and cytokine production, according to preclinical research.⁶ It may provide significant support to the aging brain, which is susceptible to inflammatory and oxidative changes; in turn, these changes may negatively impact learning and memory.⁶ In one randomized, double-blind, placebo-controlled study, daily supplementation with 900 mg of DHA for 24 weeks significantly promoted cognitive function,

including episodic memory and learning in older adults.⁷ DHA also helps support the development of the brain, eyes and nerves in children up to 12 years of age.

Fish oils have also demonstrated beneficial effects on the cardiovascular system. Preclinical research suggests that they support healthy lipid metabolism, heart rates, and platelet and endothelial function, while reducing pro-inflammatory eicosanoid production to further support arterial health.³ In a randomized, placebo-controlled trial, supplementation with 300 mg of EPA and 200 mg of DHA for 14 days significantly promoted endothelial function (as measured by endothelium-dependent brachial artery flow-mediated vasodilation) and decreased resting heart rate.⁸ Similarly, daily intake of 180 mg of EPA and 120 mg of DHA for six months significantly decreased high-sensitivity C-reactive protein (hs-CRP), while promoting endothelial function and a healthy lipid profile.⁹

The form of supplemented EPA and DHA can have a significant impact on bioavailability.¹⁰ Research has found that the triglyceride form is highly bioavailable, with clinical studies reporting greater absorption of EPA and DHA in this form when compared to ethyl esters.¹¹⁻¹³ Similarly, supplementation with EPA and DHA in the triglyceride form for six months was reported to significantly increase the omega-3 index to a greater extent when compared to the same dose provided in ethyl ester form.¹⁴ This measurement of omega-3 status represents the percentage of EPA and DHA in red blood cell membranes, and indicates an individual's long-term intake of omega-3 fatty acids.

The vitamin D receptor is found on most immune cells, demonstrating an important interaction between vitamin D and the immune system.¹⁵ Low vitamin D status is associated with decreased upper respiratory immune function, while vitamin D supplementation can positively affect immune cells.¹⁶⁻¹⁸ Vitamin D mediates T and B cell proliferation, phagocytic activity of macrophages, and cytokine production.¹⁹ In one clinical trial, 1,000 IU of vitamin D taken daily for three months significantly regulated IL-2, IL-4, IL-6, and IFN-y production.²⁰

Vitamin D is also well-recognized for its beneficial effects on bone health. Vitamin D helps absorb and use calcium and phosphorus to support normal bone mineralization, while promoting bone cell activity.²¹ Research suggests that 400 IU of vitamin D per day supports bone growth in young children, while 600 IU daily helps maximize bone health in adolescents and adults.^{22,23} Furthermore, 800 IU of vitamin D daily helps maximize bone health in adults over 70 and may help decrease hip or non-vertebral fracture risk by nearly 25%.^{23,24}

REFERENCES

- Simopoulos, AP. Nutrients. 2016; 8(3): 128.
- Swanson, D, Block, R, Mousa, SA. Adv Nutr. 2012; 3(1): 1-7. Kris-Etherton, PM, Harris, WS, Appel, LJ, American Heart Association.. Circulation. 2002; 106(21): 2747–57. 3
- Miles, EA, Calder, PC, Br J Nutr. 2012; 107 SJ. 2014 Calder, PC. Nutrients. 2010; 2(3): 355-374. Dyall, SC. Front Aging Neurosci. 2015; 7: 52.

- Yurko-Mauro, K, et al. Alzheimers Dement. 2010; 6(6): 456-64.
- Shah, AP, et al. J Cardiovasc Pharmacol Ther. 2007; 12(3): 213-9. Ebrahimi, M, et al. Acta Cardiol. 2009; 64(3): 321-7. 8
- 10. von Schacky, C. Nutrients. 2014; 6(2): 799-814 11. Beckermann, B, Beneke, M, Seitz, I. [Abstract].
- Arzneimittelforschung. 1990; 40(6): 700-4

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- Lawson, LD, Hughes, BG. Biochem Biophys Res Commun. 1988; 152(1): 328-35.
- 13. Dyerberg, J, Madsen, P, Møller, JM, Aardestrup, I, Schmidt, EB.
- Prostaglandins Leukot Essent Fatty Acids. 2010; 83(3): 137-41. 14. Neubronner, J. Schuchardt, JP, Kressel, G, Merkel, M, von Schacky,
- C. Hahn, A. Eur J Clin Nutr. 2011, 65(2): 247-54.
 S. Aranow, C. J Investig Med. 2011; 59(6): 881–886.
 Bryson K.J. Nash AA, and Norval M. Epidemiology & Infection. 2014; 2(9): 1789-1801.
- 17. Sabetta J, DePetrillo P, Cipriani R, Smardin J, Burns A, and Landry M. PLoS One. 2010; 5(6): e11088.
- Rolf L, Muris AH, Hupperts R, Damoiseaux J. Ann. N.Y. Acad. Sci 2014: 1317: 84–91.

19. Mora, JR, Iwata, M, von Andrian, UH, Nat Rev Immunol, 2008; 8(9); 685-698.

- 20. Di Filippo P, Scaparrotta A, Rapino D, Cingolani A, Attanasi M, et al. Int Arch Allergy Immunol. 2015; 166: 91-96. 21. Wranicz, J, Szostak-Wegierek, D. Rocz Panstw Zakl Hig. 2014;
- 65(3): 179-184.
- 22. Wagner, CL, Greer, FR. Pediatrics. 2008; 122(5): 1142-1152.
- Wagner, CC, Greer, N.: Pedraftics: *Evolo*, 122(3), 1142-1132.
 Holick, MF, Binkley, NC, Bischoff-Ferrari, HA, Gordon, CM, Hanley, DA, et al. J Clin Endocrinol Metab. 2011; 96(7):1911-1930.
- Bischoff-Ferrari, HA, Willett, WC, Wong, JB, Giovannucci, E, Dietrich, T, Dawson-Hughes, B. JAMA. 2005; 293(18): 2257-2264.

