PRM Prime Advanced Omega-3 Fish Oil, Featuring Pro-Resolving Mediators



PRODUCT BENEFITS*

- Supplies EPA and DHA, precursors to proresolving lipid mediators*
- Promotes specialized pro-resolving lipid mediator activity*
- Provides building blocks that support the natural resolution of the immune response*

PRM Prime features highly concentrated fish oil with a standardized quantity of the pro-resolving mediators (PRMs) 18-HEPE, 17-HDHA, and 14-HDHA. Metabolites of PRMs, known as specialized PRMs, provide building blocks to support the natural resolution of the immune response.*

Essential fatty acids are released from circulation to provide the substrate for forming SPMs. The positive benefits of omega-3s for many clinical indications may be attributed to the action of SPMs.^{*2,5}

Both in vitro and animal studies have demonstrated the effect of SPMs on resolution. Results of a study that explored the contribution of unresolved inflammation to heart failure after myocardial infarction in rodents found that resolvins reduced pro-fibrotic genes and collagen deposition in cardiac tissue, leading to a reduced risk of heart failure.⁸ In other animal research. resolvin E1 was shown to exert action on experimental models of inflammatory conditions, such as periodontitis, colitis, and peritonitis, in brain reperfusion. Resolvin E1 was also identified in the resolution of allergic airway responses. D2, another resolvin phenotype, was recognized as a regulator of the inflammatory response in mice with microbial sepsis. Additionally, the reviewers noted that the induction of macrophages resulted in a unique pro-resolving phenotype, potentially reducing the incidence of obesity-related metabolic disorders.*9



KEY INGREDIENTS

PRMs & SPMs

Pro-resolving mediators (PRMs) are metabolites of omega-3 and omega-6 fatty acids. These PRMs are metabolized down to naturally occurring signaling molecules referred to as "specialized PRMs" (SPMs). The function of SPMs is to downregulate the inflammatory process after the initial immune response, allowing a return to homeostasis. SPMs target specific immune cells to switch off, or resolve, the inflammatory response that naturally occurs with acute injury or illness.^{1,2} Without a resolution, inflammation may linger after the acute phase has passed, leading to an increased risk for significant chronic health issues.^{*1.4}

Essential fatty acids are released from circulation to provide the substrate for forming SPMs. The positive benefits of omega-3s for many clinical indications may be attributed to the action of SPMs.^{*2,5}

SUPPLEMENT FACTS

Serving size: 1 Softgel Servings per container: 30	Amount Per Serving	% Daily Value
Calories	10	
Total Fat	1 g	1% †
Cholesterol	5 mg	2%
Fish Oil Concentrate	800 mg	**
Total Omega-3 Fatty Acids	590 mg	**
EPA (eicosapentaenoic acid)	245 mg	**
DHA (docosahexaenoic acid)	195 mg	**
Total Pro-Resolving Mediators 18-HEPE (18-hydroxyeicosapentaenoic acid) 17-HDHA (17-hydroxydocosahexaenoic acid) 14-HDHA (14-hydroxydocosahexaenoic acid)	400 mcg	**
[†] Percent Daily Values are based on a 2000 calorie diet. ** Daily Value Not Established		

Other Ingredients: Softgel (bovine gelatin, glycerin, purified water), and natural lemon flavor.

Contains: Fish (anchovy, sardine, herring, and mackerel) and squid.

FORMULATED TO EXCLUDE: Wheat, gluten, corn, yeast, soy, dairy products, crustacean shellfish, peanuts, tree nuts, egg, sesame, ingredients derived from genetically modified organisms (GMOs), artificial colors, and artificial sweeteners.

*To be provided by health care professionals only. The dosage recommendations are only for your health care provider's consideration. Please consult your health care provider for your individual dosing instructions. This product is for nutritional purposes only. It is not designed to diagnose, treat, reverse, cure, or prevent any disease. This product is not intended to replace or delay the use of prescription medication. These statements have not been evaluated by the FDA. All rights reserved © Biogenetix, LLC

PRM Prime



An in vitro study using blood from individuals with obesity explored the hypothesis that resolution failure may lead to unrelenting inflammation in those individuals, contributing to comorbidities of obesity. The resulting data showed that immune cells from individuals with obesity do have an unbalanced formation of SPMs regarding pro-inflammatory lipid mediators. The authors noted that supplementation of the 17-HDHA intermediate versus its DHA precursor is potentially significant for boosting impaired SPM formation when DHA metabolism is compromised, such as in obesity.^{*10}

PRM Prime contains an enhanced marine lipid concentrate of omega-3 fatty acid ethyl esters with a standardized level of PRMs. The concentrate is a result of a proprietary fractionation method used to enrich 18-HEPE, 17-HDHA, and 14-HDHA. Metabolites of PRMs are emerging as a promising modality for providing building blocks to support the natural resolution of the immune response.*

DIRECTIONS FOR USE

Take one softgel daily, or use as directed by your health care provider.

STORAGE

Keep closed in a cool, dry place out of reach of children.

WARNING

Consult your healthcare professional before use. Individuals taking blood thinners or other medication should discuss potential interactions with their health care professional. Do not use if tamper seal is damaged.

REFERENCE LIST

- 1. Serhan CN. Nature. 2014;510(7503):92-101. doi:10.1038/nature13479
- Hansen TV, Vik A, Serhan CN. Front Pharmacol. 2019;9:1582. doi:10.3389/ fphar.2018.01582
- Norling LV, Ly L, Dalli J. Curr Opin Clin Nutr Metab Care. 2017;20(2):145-152. doi:10.1097/MCO.00000000000353
- Neuhofer A, Zeyda M, Mascher D, et al. Diabetes. 2013;62(6):1945-1956. doi:10.2337/db12-0828
- Bannenberg G, Serhan CN. Biochim Biophys Acta. 2010;1801(12):1260-1273. doi:10.1016/j.bbalip.2010.08.002
- Dalli J, Serhan CN. Curr Opin Immunol. 2018;50:48-54. doi:10.1016/j.coi.2017.10.007
 So J, Wu D, Lichtenstein AH, et al. Atherosclerosis. 2021;316:90-98. doi:10.1016/j. atherosclerosis.2020.11.018
- Kain V, Ingle KA, Colas RA, et al. J Mol Cell Cardiol. 2015;84:24-35. doi:10.1016/j. yjmcc.2015.04.003
- Člària J, González-Périz A, López-Vicario C, et al. Front Immunol. 2011;2:49. doi:10.3389/fimmu.2011.00049
- 10. López-Vicario C, Titos E, Walker ME, et al. FASEB J. 2019;33(6):7072-7083.