

Cyaplex F

Super Immuno-Nanocomplex^{16,17}

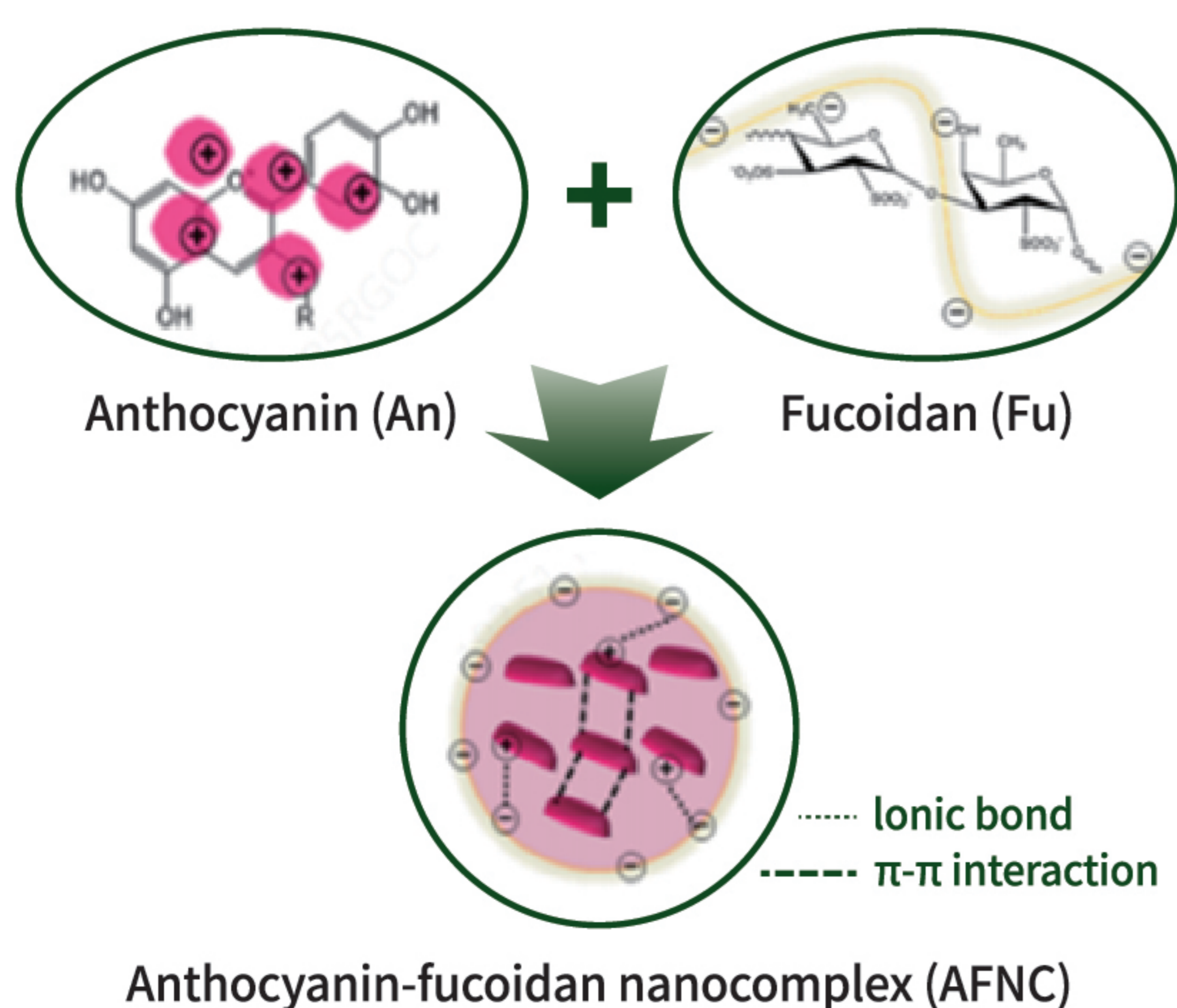
Cyaplex F is a research-supported dietary supplement that helps enhance immune responses and also plays a crucial role as a gene-targeting nutrient that impacts gene activity with the patented* fusion nanotechnology developed by CellMed.

Gene-targeting nutrients are specific foods that can influence gene activity by supporting important processes, such as histone modification, DNA methylation, and micro-RNA modulation. This supplement has powerful immune-fortifying properties that bolster the activity of natural killer (NK) cells, T cells, and macrophages, and influence genes associated with the growth and proliferation of abnormal cells.

Key Ingredients

Anthocyanin-Fucoidan Nanocomplex (AFNC):

This nano-composite combines positively charged anthocyanins from Aronia fruits with negatively charged fucoidan from brown kelp extracts. While typical anthocyanins degrade quickly in the blood and small intestine, our advanced AFNC manufacturing process utilizes cyanidin-3-O-glycoside (C3G), the most active anthocyanin. Through CellMed's patented* ionic and π - π bonding process, this complex offers markedly enhanced physicochemical stability and bioavailability of anthocyanins. This advanced mechanism, supported by research published in the International Journal of Pharmaceutics, ensures optimal performance and support for overall health and well-being.



Key Materials

Aronia Bioactive Factor (ABF)

ABF refers to standardized and patented* Aronia Bioactive Factor, which is extracted from wild Aronia fruits. ABF, which comprises a potent blend of anthocyanin, quercetin, rutin, catechin, chlorogenic acid, and other polyphenols, has been meticulously formulated by CellMed's scientists over many years. C3G is one of the most active among 600 types of anthocyanins. Abundantly present in Aronia fruits, black beans, and black rice, C3G is a superior gene-targeting ingredient renowned for its ability to support cellular health and alter abnormal cellular functions.

Fucoran: Bioactive Fucoidan

Fucoran is a standardized and patented* fucoidan complex that consists of fucoidan, laminarin, and alginic acid. These naturally occurring, edible polysaccharides are derived from brown kelp. Fucoran, as an activated form of fucoidan, offers markedly heightened bioavailability compared to single fucoidan. Fucoidan is known to have benefits for immune fortification, optimal immune responses, and microbiome balance, among other health advantages.



Details

Cyaplex F is available in the following forms and servings:

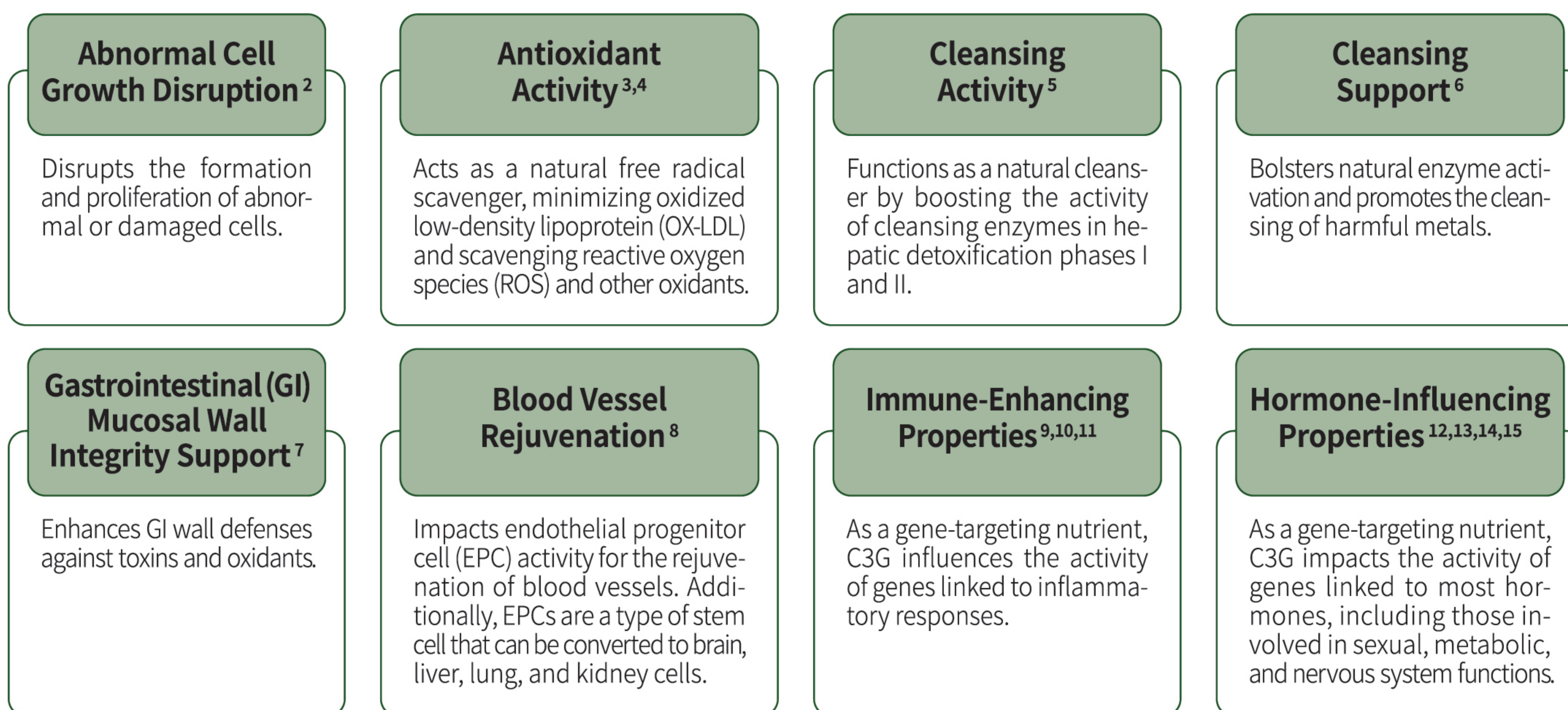
	Powder Packet	Capsule
Suggested use	Take 1 packet 2 times a day with plenty of water	Take 2 capsules 2 times a day with water
Packaging unit	30 sticks × 2 boxes	120 capsules × 2 bottles
Active ingredient amount per serving*	Per serving - 1 packet (4 g) Aronia Extract powder 320 mg Kelp Extract powder 3680 mg	Per serving - 2 capsules (1,100 mg = 1.1 g) Aronia Extract powder 88 mg Kelp Extract powder 931 mg

* Daily Value not established

Mechanism of Key Ingredients

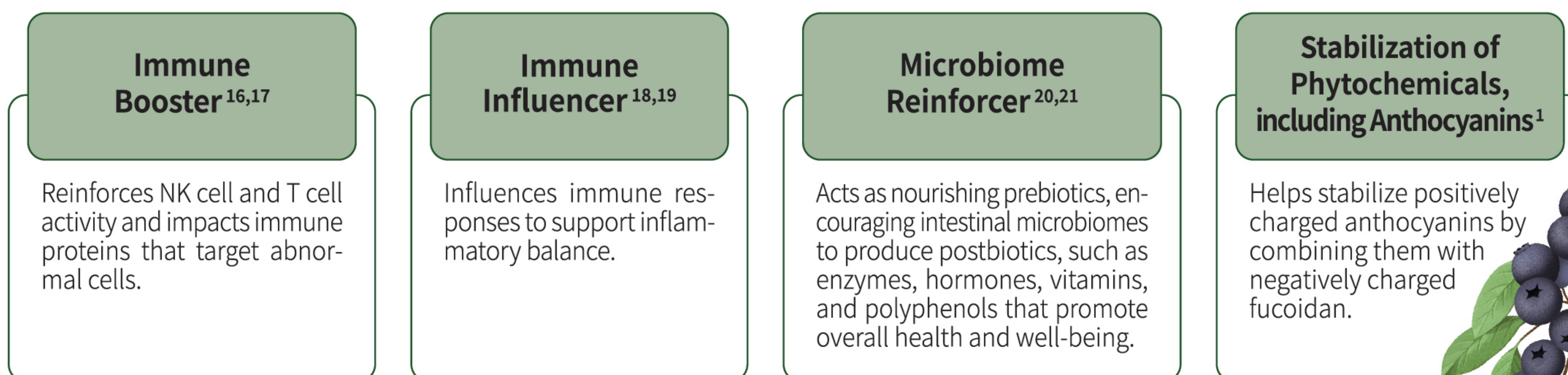
※ Cyanidin-3-O-glycoside (C3G)

Anthocyanin from Aronia fruits, specifically C3G, has been extensively studied, revealing diverse health benefits, including:



※ Fucoran

The naturally negatively charged fucoidan complex, derived from brown algae, is sourced from domestic kelp in South Korea, with versatile health benefits including the following:



Patent

1. Adjuvants, anticancer immuno-therapeutic agents and mitigation of chemo-therapeutic agents comprising anthocyanin-fuoidan complex. Patent registered in Korea (Registration no.: 10-2134307) and in Japan (Registration no.: 6961100). Patent pending in US (Application no.: 16/759,364), China (Application no.: 201880083898.X), EU (Application no.:18870322.7) and PCT (PCT/KR2018/012849)
2. Anthocyanin via Charge Complex with Anionic Polysaccharide Having Improved Stability, Composition Containing the Same, and Method for Preparing the Same. Patent registered in Korea (Registration no.: 10-1365798)
3. Complex composition containing fuoidan and alginic acid. Patent pending in Korea (Application no.: 10-2023-0083031).
4. Composition for preventing, improving or treating gastritis or gastrointestinal ulcer comprising complex of anthocyanin and anionic polysaccharide. Patent registered in Korea (Registration no.: 10-2612520). Patent pending in US (Application no.: 17/621,956), China (Application no.: 202080047230.7), EU (Application no.: 20831206.6), Japan (Application no.: 2021-576645) and PCT (PCT/KR2020/008343).
5. Uses of anthocyanin-anionic polysaccharide complex for preventing or treating infection of influenza virus A. Patent registered in Korea (Registration no.: 10-2225151). Patent pending in US (Application no.: 17/621,846), China (Application no.: 202080046672.X), EU (Application no.: 20832685.0), Japan (Application no.: 2021-576649) and PCT (PCT/KR2020/008235).
6. A composition for prevention and treatment of non-alcoholic fatty liver disease. Patent registered in Korea (Registration no.: 10-1501433).
7. Composition for preventing, improving or treating pulmonary fibrosis comprising complex of anthocyanin and anionic polysaccharide Patent pending in Korea (Application no.: 10-2020-0027351).

Published Thesis

1. Lee JY et al. Anthocyanin-fuoidan nanocomplex for preventing carcinogen induced cancer: Enhanced absorption and stability. *Int J Pharm.* 2020 Aug 30;586:119597.
2. Tian J et al. Cyanidin-3-O-glucoside protects human gastric epithelial cells against Helicobacter pylori lipopolysaccharide-induced disorders by modulating TLR-mediated NF- κ B pathway. *Journal of Functional Foods* Volume 68, May 2020, 103899
3. Anfuso CD et al. Antioxidant Activity of Cyanidin-3-O-Glucoside and Verbascoside in an in Vitro Model of Diabetic Retinopathy. *Front Biosci (Landmark Ed).* 2022;27(11):308.
4. Dong YH et al. The Potential Roles of Dietary Anthocyanins in Inhibiting Vascular Endothelial Cell Senescence and Preventing Cardiovascular Diseases. *Nutrients.* 2022 Jul 10;14(14):2836.
5. Lo Piero, Angela Roberta et al. Gene isolation, analysis of expression, and in vitro synthesis of glutathione S-transferase from orange fruit [*Citrus sinensis* L. (Osbeck)]. *J Agric Food Chem.* 2006 Nov 29;54(24):9227-33.
6. Du YW et al. Cyanidin-3-glucoside inhibits ferroptosis in renal tubular cells after ischemia/reperfusion injury via the AMPK pathway. *Mol Med.* 2023 Apr 3;29(1):42.
7. Chen W et al. Modulation of Gut Microbial Metabolism by Cyanidin-3-O-Glucoside in Mitigating Polystyrene-Induced Colonic Inflammation: Insights from 16S rRNA Sequencing and Metabolomics. *J Agric Food Chem.* 2024 Apr 3;72(13):7140-7154.
8. Parzonko A et al. Anthocyanin-rich *Aronia melanocarpa* extract possesses ability to protect endothelial progenitor cells against angiotensin II induced dysfunction. *Phytomedicine*, 2015 Dec 15;22(14):1238-46.
9. Jang BK et al. *Antioxidants (Basel)*. 2020 Sep 2;9(9):816.
10. Molonia MS et al. In Vitro Effects of Cyanidin-3-O-Glucoside on Inflammatory and Insulin-Sensitizing Genes in Human Adipocytes Exposed to Palmitic Acid. *Chem Biodivers.* 2021;18(12):e2100607.
11. Evans L W et al. Dietary natural products as epigenetic modifiers in aging-associated inflammation and disease. *Nat Prod Rep.* 2020 May 1; 37(5): 653–676.
12. Li X et al. Cyanidin-3-O-glucoside protects against cadmium-induced dysfunction of sex hormone secretion via the regulation of hypothalamus-pituitary-gonadal axis in male pubertal mice. *Food Chem Toxicol.* 2019 Jul;129:13-21.
13. Wen L et al. Cyanidin-3-O-glucoside promotes the biosynthesis of progesterone through the protection of mitochondrial function in Pb-exposed rat leydig cells. *Food Chem Toxicol.* 2018 Feb;112:427-434
14. Olivas-Aguirre FJ et al. Cyanidin-3-O-glucoside: Physical-Chemistry, Foodomics and Health Effects. *Molecules.* 2016 Sep 21;21(9):1264.
15. Perisico G et al. Comparative Analysis of Histone H3K4me3 Distribution in Mouse Liver in Different Diets Reveals the Epigenetic Efficacy of Cyanidin-3-O-glucoside Dietary Intake. *Int J Mol Sci.* 2021 Jun 17;22(12):6503
16. Li Y et al. Immunopotentiating Activity of Fuoidans and Relevance to Cancer Immunotherapy. *Mar. Drugs.* 2023 21:128.
17. Jin JO et al. Seaweeds in the Oncology Arena: Anti-Cancer Potential of Fuoidan as a Drug—A Review. *Molecules.* 2022 Sep 16;27(18):6032.
18. Jayawardena TU et al. A Review on Fuoidan Structure, Extraction Techniques, and Its Role as an Immunomodulatory Agent. *Mar Drugs.* 2022 Nov 30;20(12):755.
19. Apostolova E et al. Immunomodulatory and Anti-Inflammatory Effects of Fuoidan: A Review. *Polymers (Basel).* 2020 Oct 13;12(10):2338.
20. Zang L et al. Beneficial effects of seaweed-derived components on metabolic syndrome via gut microbiota modulation. *Front Nutr.* 2023 Jun 15;10:1173225.
21. Liu M et al. Fuoidan alleviates dyslipidemia and modulates gut microbiota in high-fat diet-induced mice. *Journal of Functional Foods.* 2018.48. 220-227.

FDA Disclosure

*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.