



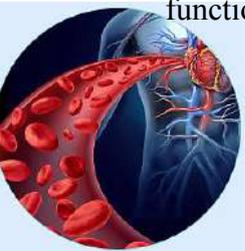
Krill Oil

E-newsletter, October 2020
Kangcare Bioindustry Co., Ltd

Antarctic krill is one of the largest single species of organisms on earth. Antarctic krill catch is more than twice the world's existing fishery production, with great development and utilization potential.

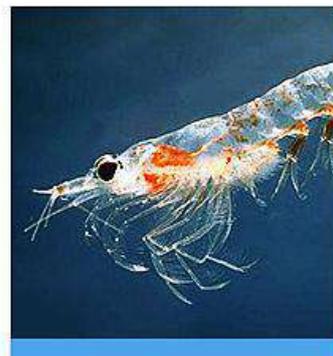
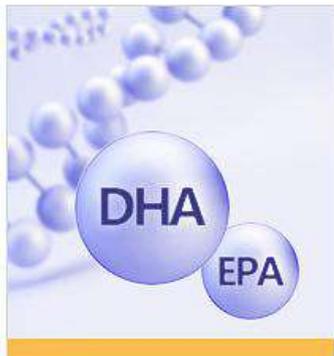


Due to the large biomass storage of Antarctic krill, more and more researchers at home and abroad have begun to pay attention to the development and utilization prospects of Antarctic krill. However, the unsaturated fatty acid content in Antarctic krill up to 70% is more important. Many oils such as unsaturated fatty acids in fish oil nutritional value is significant, the related research results show that polyunsaturated fatty acids especially docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), is not only constitutes one of the important components of higher animal cells, but also has the prevent arteriosclerosis, lower cholesterol, improve the brain function of learning and prevention of alzheimer's disease and other physiological function.





Krill oil contains phospholipids and omega-3 fatty acids that enhance bioavailability and stability. Phospholipids combine omega-3 fatty acids with the contents of the stomach, preventing fishy smells and other unpleasant digestive problems. Phospholipid-bound Omega-3 and choline blend more efficiently into the body's cells and vital organs.



Nutrients in krill oil

- **Fatty acid**

The most important nutrient component in Antarctic krill fat is fatty acid, which contains many kinds of fatty acid, unsaturated fatty acid especially polyunsaturated fatty acid (PUFAs) content is relatively rich. Antarctic krill oil is rich in EPA and DHA, usually in the form of Omega-3-phospholipids. The fatty acids are mostly attached to phospholipids and can be miscible with water, making them a bioactive complex molecule that can be absorbed directly into the small intestine, increasing bioavailability. Phospholipids in krill oil are more important forms of active fatty acids, which can be absorbed and utilized directly or indirectly by human more efficiently.





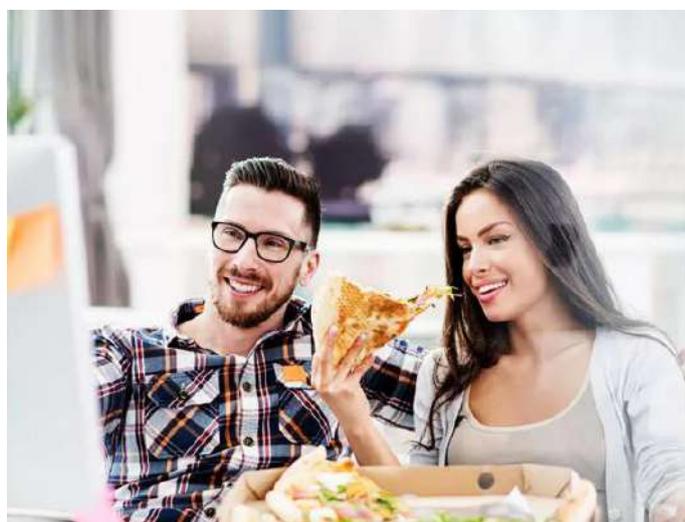
● Astaxanthin

Astaxanthin is an oxygen-containing derivative of carotene. Krill contain a certain amount of astaxanthin, mainly in the carapace; Every 100 g of chilled Antarctic krill contains about 3~4mg of carotenoid, among which astaxanthin is the main ingredient, accounting for 80%. Astaxanthin protects lipids from oxidation and is better at antioxidant and free radical elimination than beta carotene. Astaxanthin is a common pigment in aquaculture and a powerful antioxidant and lipid peroxidation inhibitor in aquatic animals. Astaxanthin generally comes from lobster and shrimp processing by-products, but the supply of astaxanthin has been in short supply. The abundant resources and high astaxanthin content of Antarctic krill bring new hope to the application industry related to astaxanthin.



● Phospholipid

The content of phospholipid in Antarctic krill oil is very rich, accounting for about 40%. Phospholipid is an essential component of human body, and also plays many important functions in the body, which can decompose the lipids and cholesterol in part of the body, reduce the blood viscosity, so as to keep blood vessels smooth and prevent the occurrence of vascular embolism. At the same time, phospholipids can also promote the metabolism of neutral fat and cholesterol, increase its water solubility, more easily through the kidneys out of the body. In addition, as an important component of cell membrane, phospholipids also have cellular activation and transport functions. Therefore, the daily body needs a large amount of phospholipid, which needs to be constantly supplemented from food, so as to maintain human health. Phospholipids combine omega-3 fatty acids with the contents of the stomach, preventing fishy smells and other unpleasant digestive problems. Phospholipid-bound Omega-3 and choline blend more efficiently into the body's cells and vital organs.



Efficacy and mechanism

● Regulate blood lipids

Mechanism:

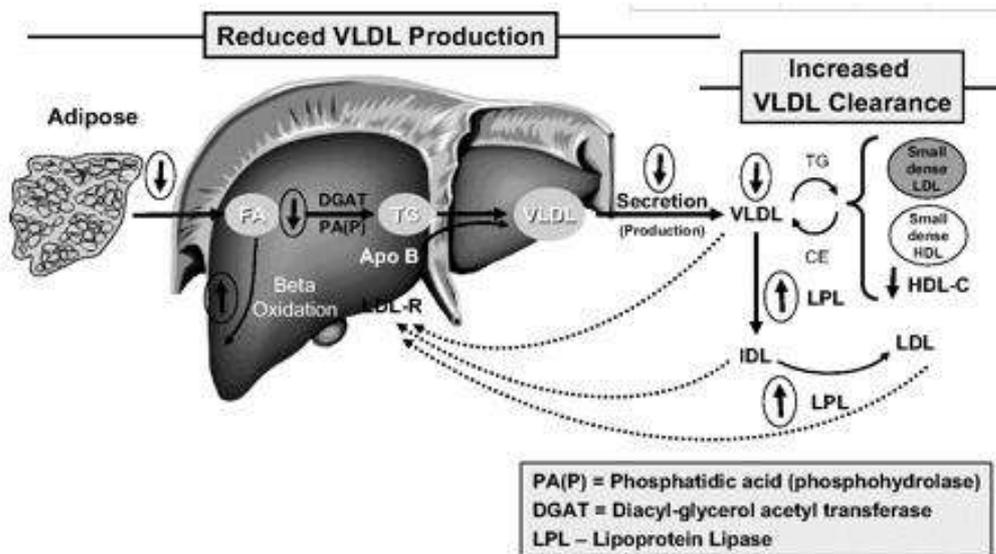
Antarctic krill oil can reduce atherosclerosis index (AI) by lowering serum triglyceride (TG), total cholesterol (TC) and low density lipoprotein (LDL-C) levels in laboratory animals.



There are a lot of Omega 3 fatty acids in Krill oil, which plays an important role in regulating blood lipid metabolism. Mechanisms by which Omega-3 fatty acids reduce triacylglycerol (TG) synthesis in the liver and increase VLDL clearance in the peripheral circulation.



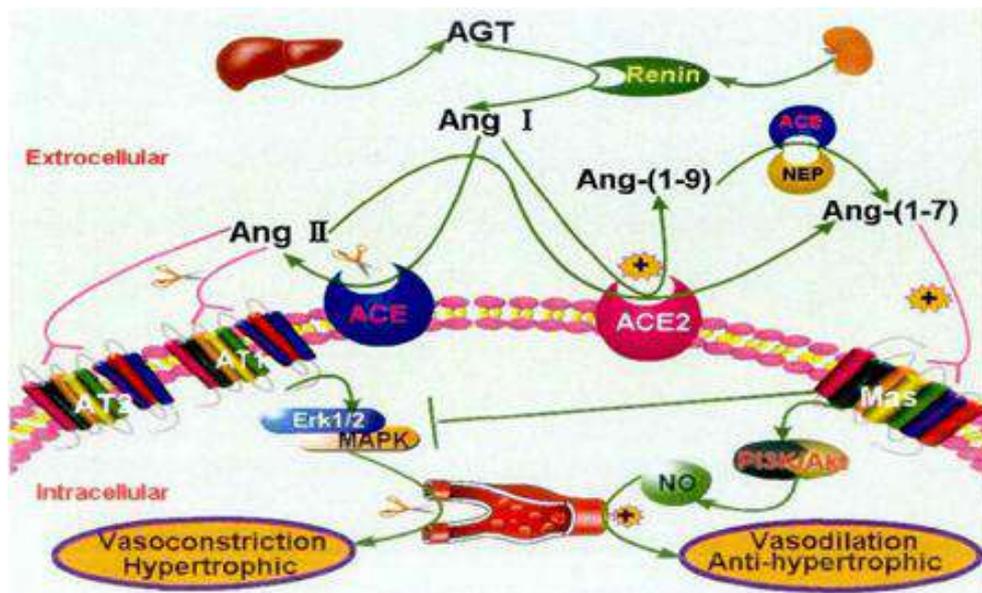
In vitro experiments have proved that Antarctic krill oil can promote fat metabolism of HepG2 cells induced by high fat serum and improve fat accumulation in liver cells. In vivo experiments confirmed that Antarctic krill oil can reduce TC and LDL-C in serum of hyperlipidemia rats, and improve steatosis at the same time. Studies on the mechanism of lipid lowering showed that Antarctic krill oil could reduce oxidative stress injury of liver cells by reducing the production of ROS in liver cells. It can enhance lipid metabolism by activating PPAR-a, PPAR-y, MAPK-7 protein molecular signaling pathway or inhibiting NF-KB (P65) protein molecular signaling pathway.



● Regulate blood pressure

Mechanism:

There are a lot of Omega-3 fatty acids in Krill oil, which plays an important role in regulating blood pressure. Omega-3 fatty acids can up-regulate ACE2-Ang (1-7)-masmin pathway and inhibit the expression of downstream p-Erk by increasing the expression of Mas receptor gene. Long-chain Omega-3 fatty acids can down-regulate the ace-angii-at1r pathway by inhibiting ACE mRNA expression, increase the mRNA expression of Mas receptor by up-regulating ACE2-Ang (1-7)-MasR pathway, and exert anti-hypertension, vascular remodeling and arterial fibrosis by down-regulating the protein expression of p-Erk and p-p38 in the MAPK signaling pathway.



Application

1. Krill oil is a potent anti-inflammatory agent. (About 300mg/day)
2. Krill oil decreases the levels of triglycerides and LDL-C. (About 1.5gr/day)
3. Krill oil improves cognitive and mental health. (About 500mg/day)
4. Benefits in fatty liver diseases.



The advantages of our products

- Good liquidity
- Good source
- High purity, no impurities
- High transparency
- Natural shrimp flavor, no peculiar smell
- Price advantage is also important

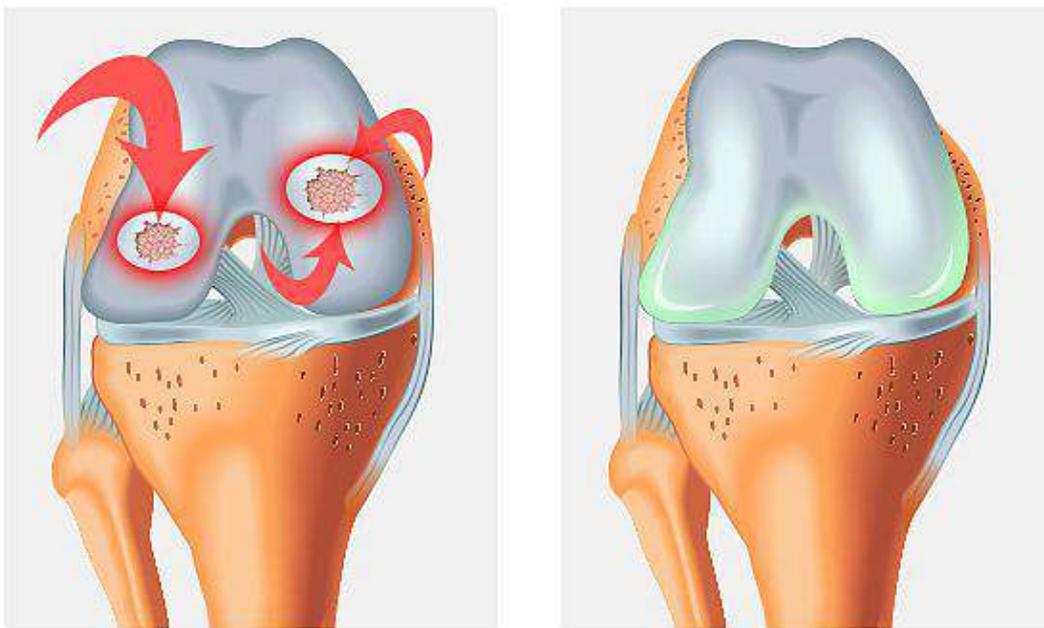


Formula

❖ MegaRed joint care



- Contains hyaluronic acid, natural nutrients in your body that soften and lubricate joints.
- Contains astaxanthin, which provides carotenoids and antioxidants.
- It also contains Omega 3 fatty acids, which promote joint health.
- Unlike glucosamine and chondroitin, only two gel capsules per day are needed.



❖ Thrive! for Life Patented Pure Omega-3 Krill 350 mg, 60 Count

Antarctic Krill contains omega-3 fatty acids, antioxidants and a phospholipid complex. Krill are small prawn-like creatures which comprise one of the largest biomasses in the ocean. It is one of the most abundant organisms on the planet. Krill represents a renewable and positive nutrition source.

Thrive For Life Patented Pure Omega-3 Krill Oil contains omega-3 fatty acids DHA and EPA. Supportive, but not conclusive research shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease. DHA is essential to maintaining the fluidity of brain cell membranes and retina function.



Supplement Facts		
Serving Size: 1 Softgel		
	Amount Per Serving	%DV
Cholesterol	5 mg	2% [#]
Krill Oil	350 mg	††
Omega-3 Fatty Acids	90 mg	††
EPA (eicosapentaenoic acid)	50 mg	††
DHA (docosahexaenoic acid)	24 mg	††
Phospholipids	130 mg	††
Astaxanthin	17 mcg ^v	††

Percent Daily Value (DV) is based on a 2,000 calorie diet.
 †† Daily Value not established.
 v At time of manufacture.

OTHER INGREDIENTS: Gelatin Capsule (Gelatin, Glycerin, Purified Water, Ethyl Vanillin, Sorbitol).
CONTAINS CRUSTACEAN SHELLFISH (krill).

(Note: The raw materials used in the above formulas are not necessarily from kangcare, but are for reference only)

Kangcare can provide designation and optimization of Formulations according to customers' requirements. We can also do contract manufacturing of supplements, welcome to consult and support.

