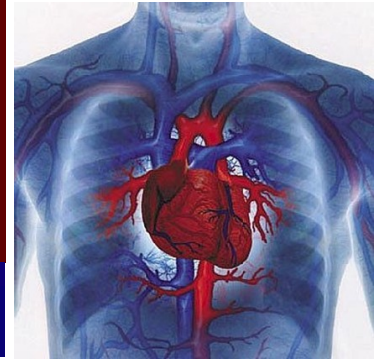


# The Health Benefits of Krill Oil versus Fish Oil

Antarctic krill

*Euphausia superba*



Human trials show EPA and DHA significantly lower triglycerides, VLDL, LDL, and blood pressure, and raise HDL. Fish oil, a prominent source of EPA and DHA, maintains a long founded history in epidemiologic and intervention studies which support it can help reduce atherosclerotic plaque growth, cancer, arrhythmia, inflammation, arthritis, kidney disease, and skin disorders, as well as increase endothelial function, anti-thrombosis, insulin sensitivity, neurological function, retinal and brain development, and immunological function. The level of causation is so profound even the American Heart Association recommends 1-3 g/day of EPA & DHA or 12 ounces of fatty fish per week. However, other biological sources of EPA and DHA are being explored by researchers; most fervently is Antarctic krill.



## Antarctic krill is a rich source of long chain $\omega$ -3 PUFAs: EPA & DHA

- ◆ ~70% incorporated into phospholipids and ~30% is free fatty acids
- ◆ DHA content in krill oil is similar to fish oil, EPA content is much higher in krill oil than fatty fish

## Krill Oil contains antioxidants Vitamin A, Vitamin E, and Astaxanthin

### Clinical Trials

- ◆ 1 g and 1.5 g krill oil **significantly more effective** than 3 g fish oil in reducing glucose and LDL
- ◆ 2 g and 3 g krill oil showed **significantly greater reduction** in glucose, LDL, and triglycerides compared to 3 g fish oil
- ◆ After an additional 120 days at 0.5 g/d krill oil (after 90 days at 1–1.5 g/d krill oil) cholesterol, LDL, HDL, triglycerides, and glucose became **significantly different from baseline**
- ◆ Krill oil's high proportion of EPA & DHA bound to phospholipids and as free fatty acids demonstrates **greater bioavailability and absorption** in the intestine compared to fish oil whose EPA & DHA is bound to triglycerides
- ◆ Mice fed 10% krill oil had **higher liver expression of endogenous antioxidant enzymes** than corn fed mice. Krill oil may have **beneficial effects against oxidative damage**
- ◆ In vitro cell lines and animal studies show astaxanthin has **powerful antioxidant properties**. Potential health benefits include **reduced risk of cataracts, diabetes, heart disease, neuronal deterioration, and certain cancers**
- ◆ Women taking krill oil consumed less pain relievers and reported **fewer PMS symptoms** of breast tenderness, joint pain, swelling, and bloating compared to fish oil. They also experienced fewer emotional symptoms of overwhelmed, irritability, stress, and depression

**Major Limitation of Krill oil:** Few published studies exploring if krill oil exhibits similar affects in vivo compared to fish oil and to an equivalent or larger number of biological systems.

**Recommendation:** “If it (fish oil) ain’t broke, don’t fix it”...at least not just yet. Continue utilizing fish oil has the premiere source of EPA and DHA. Revisit published literature on krill oil in 5 years.

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