

New Research

A RANDOMIZED CLINICAL TRIAL TO DETERMINE THE EFFICACY OF OMEGA-3 FATTY ACIDS FROM FOUR LEADING OMEGA-3 PRODUCTS



Results show Ultimate Omega® provides greater increase in blood levels of EPA and DHA.

47% *more effective than ethyl ester fish oil*

227% *more effective than salmon oil*

382% *more effective than krill oil*



STUDY OVERVIEW

OBJECTIVE

This trial was designed to compare the increases in blood levels of the long-chain omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) after consumption of Nordic Naturals' triglyceride-form omega-3 supplement Ultimate Omega®, compared to three other leading, commercially available omega-3 products, and to assess potential changes in cardiovascular health risk following supplementation.

STUDY TYPE

This was an intervention study, in which each of the healthy volunteers consumed each of the four products, in order to assess efficacy among products.

STUDY POPULATION

A total of 35 healthy subjects enrolled in the study. Data from 32 subjects was available for analysis.

METHODOLOGY

- Ultimate Omega, which is manufactured in triglyceride form, was compared to three leading omega-3 products: a fish oil product in ethyl ester form, a salmon oil product in triglyceride form, and a krill oil product in phospholipid form.
- The dose chosen was based on the product manufacturer's recommended dose (on the label of each product), which is often referred to by the manufacturer as "all you need" in marketing materials.
- For the duration of the study, each participant was randomly assigned to consume one of four products for a 28-day period, followed by a 4-week washout period, then was reassigned a new omega-3 product for a 28-day period. Subsequent 4-week washout periods and the remaining two omega-3 products were provided for each study participant. Products were provided in random order to avoid an order effect on the results.
- The daily dose on the labels of each of the four products was different; therefore, in addition to the product comparison based on each manufacturer's recommended dose, results were also calculated, by extrapolation, to reflect supplemental intake per 1000 mg of EPA or DHA, and of combined EPA plus DHA in order to demonstrate how each product at an identical intake level affected the change in each participant's omega-3 blood levels.
- Four omega-3 biomarkers of cardiovascular health risk were also employed in order to determine whether supplementation with the four products resulted in any effects on cardiovascular health risk. Each subject received a score of good, neutral, or poor, based on whether the omega-3 biomarkers improved, remained unchanged, or deteriorated.

CONCLUSION

Based on the administration of the manufacturer's recommended dose for each omega-3 product, Nordic Naturals' triglyceride-form Ultimate Omega demonstrated superior efficiency in increasing whole blood EPA levels, compared to krill oil and salmon oil.

Ultimate Omega also demonstrated superior increase in DHA, total omega-3s, and EPA+DHA compared to all three comparator products, including the ethyl ester product.

Ultimate Omega and the ethyl ester product showed similar increase in EPA at the manufacturer's recommended dose; however, after correcting for the milligram-to-milligram amount of EPA and DHA administered per 1000 mg of supplemental intake, Ultimate Omega remained superior to all of the comparator products, including the ethyl ester product.

When calculations were prepared based on both the manufacturer's recommended dose in a given supplement and the rise in EPA and DHA in the blood, *Ultimate Omega was 47% more effective than the comparator ethyl ester product, 227% more effective than the comparator salmon oil product, and 382% more effective than the comparator krill oil product.*

Ultimate Omega was the only supplement that resulted in none of the subjects receiving a poor score for cardiovascular health risk, and it garnered the highest number of good scores. Both the krill oil and the triglyceride salmon oil supplementation resulted in several subjects receiving poor scores, and the number of good scores their subjects received numbered less than 50% of the total good scores for Ultimate Omega.

FINAL RESULT

At the manufacturer's recommended dose, Nordic Naturals Ultimate Omega is more efficient and effective in increasing blood levels of the beneficial omega-3 fatty acids than are any of the comparator products. Furthermore, Nordic Naturals' triglyceride-form omega-3 supplement Ultimate Omega proved to be more beneficial in promoting cardiovascular health than any of the three comparator products. Krill oil and salmon oil were relatively unsuccessful in this aspect of the study.

PRODUCTS

The four study products include:

Nordic Naturals Ultimate Omega Fish Oil

■ FORM: EPA and DHA in triglyceride form

Ethyl Ester Fish Oil

■ FORM: EPA and DHA in ethyl ester form

Krill Oil

■ FORM: EPA and DHA in phospholipid form

Salmon Oil

■ FORM: EPA and DHA in triglyceride form

DOSE

Product	EPA+DHA per Capsule	Label Recommended Dose (caps / day)	Daily EPA+DHA Dosage	# of Caps Needed To Match EPA+DHA Levels Achieved by Taking Ultimate Omega
<i>Nordic Naturals Ultimate Omega</i>	EPA: 325 mg DHA: 225 mg	2	EPA: 650 mg DHA: 450 mg	2
<i>Ethyl Ester Fish Oil</i>	EPA: 756 mg DHA: 228 mg	1	EPA: 756 mg DHA: 228 mg	2
<i>Salmon Oil</i>	EPA: 90 mg DHA: 110 mg	2	EPA: 180 mg DHA: 220 mg	7
<i>Krill Oil</i>	EPA: 75 mg DHA: 45 mg	2	EPA: 150 mg DHA: 90 mg	10

COMPARATIVE OMEGA-3 BLOOD LEVELS

FIGURE 1 Based on manufacturer's recommended dose

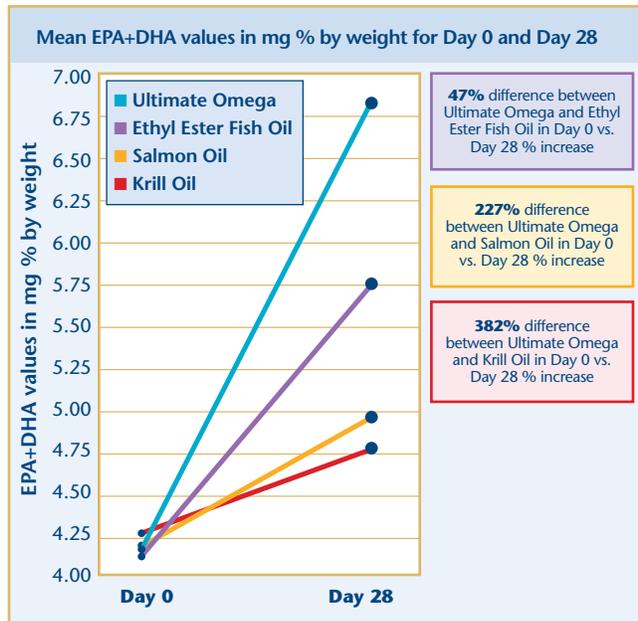
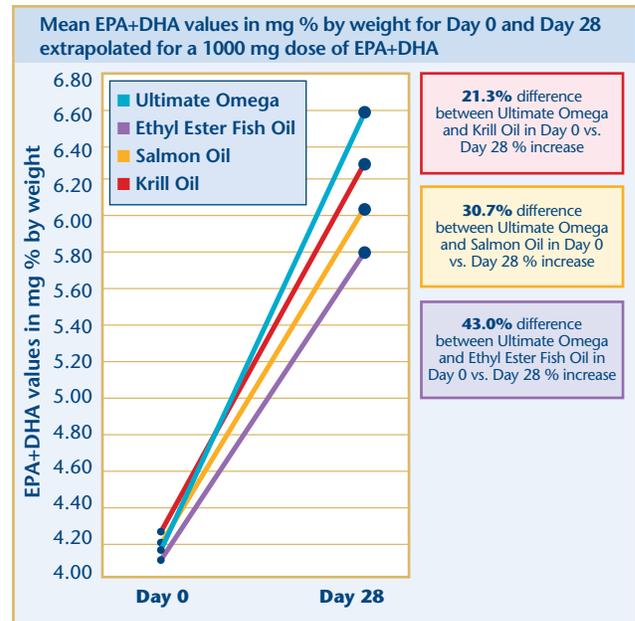


FIGURE 2 Extrapolated for a 1000 mg dose of EPA+DHA



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This is a study overview of a full report prepared by Nutrasource Diagnostics, Inc. dated August 9, 2013. Nutrasource Diagnostics, Inc. is a third-party, independent research laboratory located in the world-renowned University of Guelph Research Park.

Laidlaw M, *et al.* A randomized clinical trial to determine the efficacy of manufacturers' recommended doses of omega-3 fatty acids from different sources in facilitating cardiovascular disease risk reduction. *Lipids Health Dis* 2014 Jun 21;13:99.