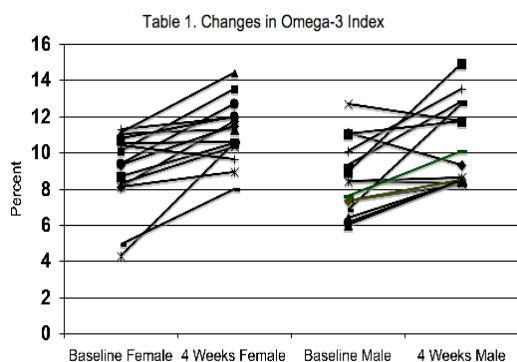


# Omega-III Salmon Oil Plus

## Salmon Oil Plus Study Abstract

### Effect of Omega-3 Fatty Acid Supplementation on Omega-3 Index and Red Blood Cell (RBC) Membrane Fatty Acid Composition

Omega-3 fatty acids (n-3 FA) have been shown from epidemiological studies and clinical trials to reduce the incidence of cardiovascular disease (CVD) in patients with the pre-existing CVD as well as in healthy individuals. In randomized secondary prevention trials fish or fish oil have been shown to reduce total and coronary heart disease (CHD) mortality at intakes of about 1 g/day. The Omega-3 Index (EPA + DHA expressed as % of total fatty acid) has been proposed as a physiologically relevant, modifiable, independent and graded risk factor for death from CHD. RBC membrane fatty acid composition correlates well with biomarkers of n-3 FA including serum EPA and DHA, whole blood EPA, DPA and DHA and fatty acid composition of cardiac tissue. The present dietary intervention study investigates the effect of a fish-oil based, n-3 FA supplement on Omega-3 Index and RBC fatty acid composition. Thirty healthy men and women consumed a supplement providing 1070 mg total n-3 FA (460 mg DHA, 480 mg EPA, and 80 mg other n-3 FA) daily for 4 wks. At the end of this period there was a significant 23% increase ( $p < 0.01$ ) in the Omega-3 Index (Fig.1). While there were



no significant changes in % linoleic, gamma linoleic, and alpha linolenic acid; EPA, DPA and DHA significantly ( $p < 0.01$ ) increased compared to baseline values (0.76% versus 1.4%; 2.30% versus 2.58% and 5.49% versus 6.60% respectively). There was a decrease ( $p < 0.05$ ) in arachidonic acid 19.58% versus 18.83%). This study shows that RBC membrane fatty acid composition and so Omega-3 Index can change in a short period of time with a fish-oil based supplement.

## References

Harris, WS, von Schacky C: The Omega-3 Index: A new risk factor for sudden cardiac death? *Prev. Med.* 2004, 39:212-220.

Harris et al. Omega-3 Fatty Acids in Cardiac Biopsies from Heart Transplant Patients: Correlation with Erythrocytes and Response to Supplementation. *Circulation.* 2004