

*Summary of
Human Clinical Data*

PROPRIETARY AND CONFIDENTIAL

Study Overview

Title:

“An industry-initiated, placebo controlled, bioavailability study to evaluate a popular dietary supplement fish oil formulation’s effect on blood fatty acid levels (total omega-3, EPA, DHA, ALA, DPA, EPA + DHA, AA/EPA ratio, omega 6 total, AA, DGLA, GLA, omega 3/omega 6 ratio, omega 6/omega 3 ratio) and secondarily, to evaluate markers of inflammation and/or to detect immune modulator stimulation in the blood. “

Investigators:

ST&T (Science, Toxicology and Technology) Physicians, health care practitioners, specimen collection and management consultants

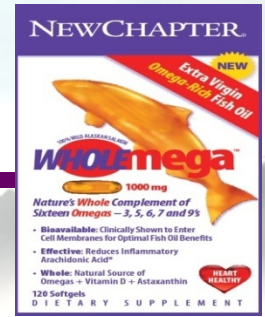
Sponsors:

Dr. Robert Newman PhD
Professor Emeritus, U. of Texas, M. D. Anderson Cancer Center
Chief Science Officer for New Chapter, Inc.

Science, Toxicology and Technology Consultants,
San Francisco, California 94147,
Michael Scott, Director.

Date: February 2009



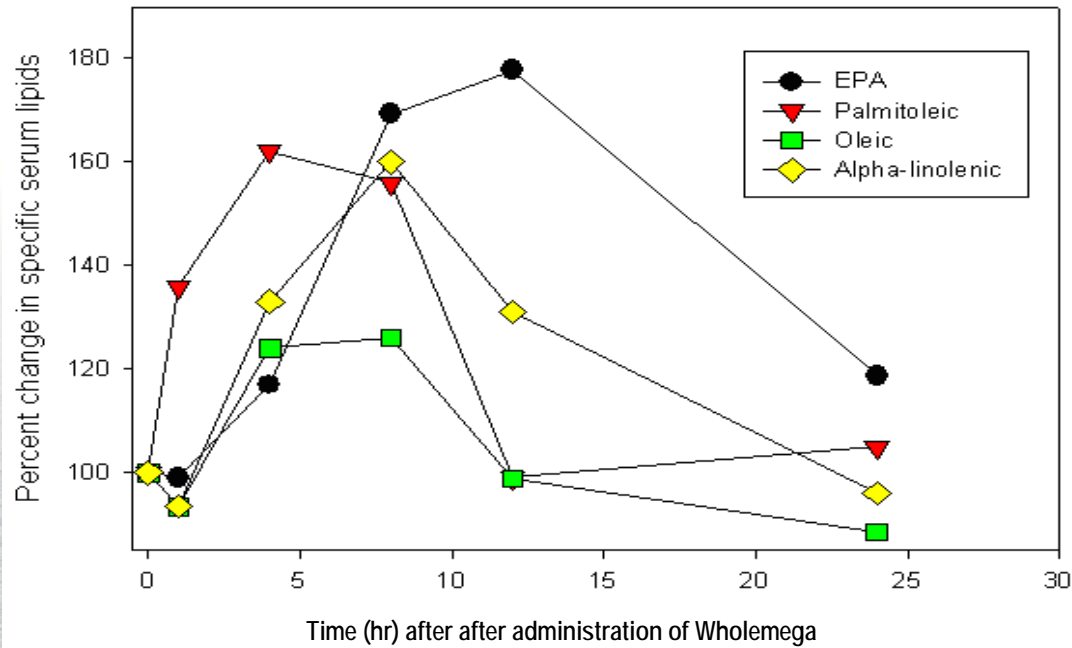


New Chapter Wholemega Human Clinical Trials

Whole Complement of Bioavailable Omega Fatty Acids

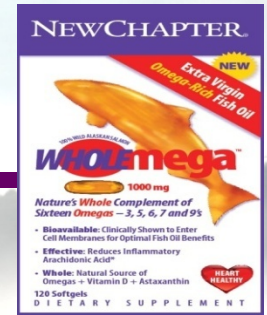
Serum Absorption

Relative change in human serum lipids
after oral administration of Wholemega (2 capsules)



Omega 3, 7, and 9 fatty acids were seen in the serum of subjects demonstrating that a **full complement of healthful lipids** is being absorbed.

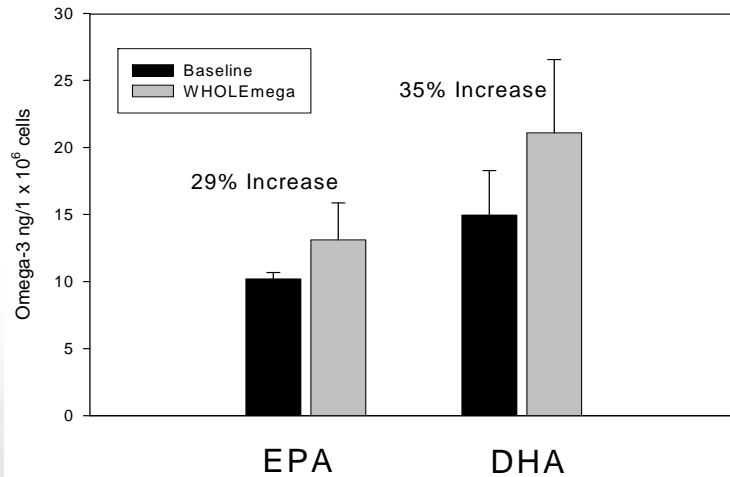
Figure 2. Human volunteers (n= 8) were administered a 2 g dose of fish oil and serial blood samples were obtained for lipid analyses. The time-dependent changes in mean EPA, oleic and palmitoleic acids (which are representative of fish oil omega-3, -5, and -7 polyunsaturated fatty acids) are depicted in the figure.



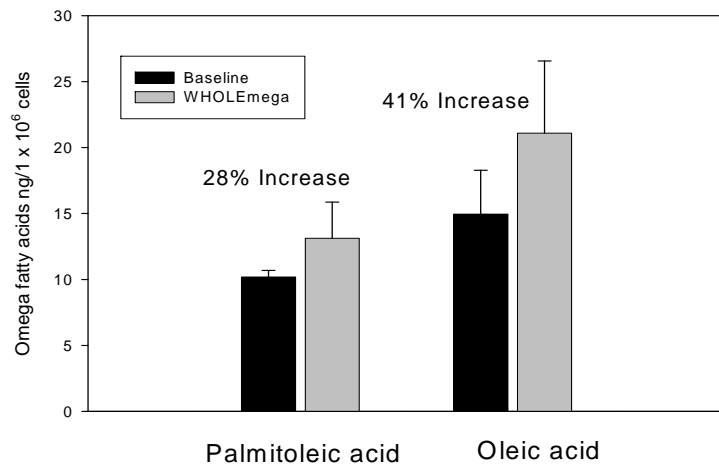
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Cell Membrane Fatty Acid Uptake for Optimal Fish Oil Benefits

Change in cell (PBMC) membrane content of omega-3 lipids after consumption of WHOLEmega (2 g)



Change in cell (PBMC) membrane content of omega-7 and 9 lipids after consumption of WHOLEmega (2 g)



Bioavailability

For optimal benefit, fish oil must be incorporated into cell membranes where it serves to modulate cell signal events (e.g. modulate inflammation) and increases membrane fluidity.

As demonstrated in a human clinical trial, Wholemega has been shown to enrich **cell membranes** – a key step in allowing Wholemega to provide its beneficial effects.

As shown in **Figure 3** even a single daily 2 g dose of NC fish oil resulted in easily demonstrable increases in membrane composition of NC fish oil derived lipids. Data were obtained from four volunteers who took NC fish oil (2 g/day) for three consecutive days. The difference in membrane lipid composition predose and after the third daily dosing was determined.

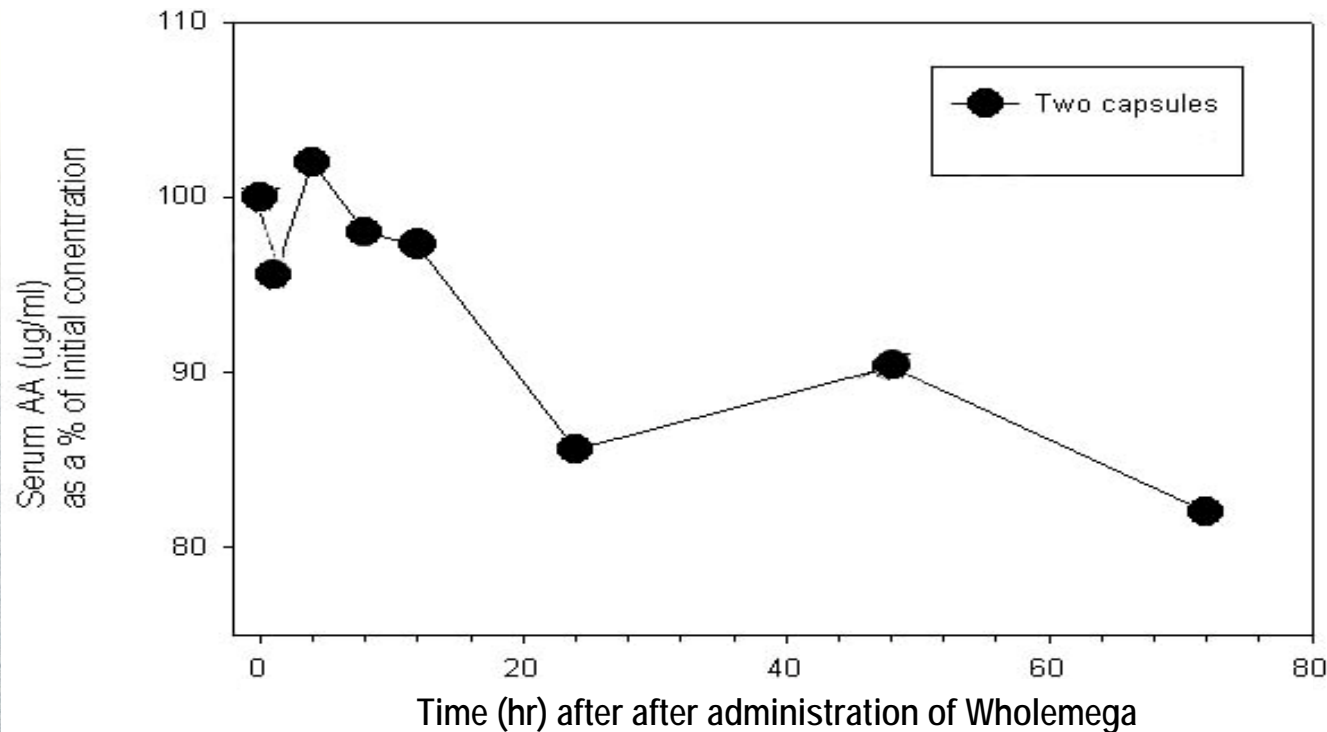
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Serum Lipid Composition: Down Regulation of Inflammation and Arachidonic Acid

In a human clinical trial, Wholemega **decreased** the serum Arachidonic acid, a primary marker of total body inflammation .



Percent change (decrease) in serum AA after administration of Wholemega



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Downregulates Arachidonic Acid & Improves Omega 6 to Omega 3 Balance

Suggested ratio for optimal health:

2:1 Omega 6 to Omega 3

Typical United States Diet:

At least 20 times more Omega 6 than Omega 3

Preliminary data shows **Wholemega™** down-regulates inflammatory Arachidonic Acid (AA) by up to 50%, significantly improving the balance of inflammatory AA to anti-inflammatory EPA. This human clinical data helps demonstrate how **Wholemega™** contributes to a better balance of the Omega 6 to Omega 3 ratio.

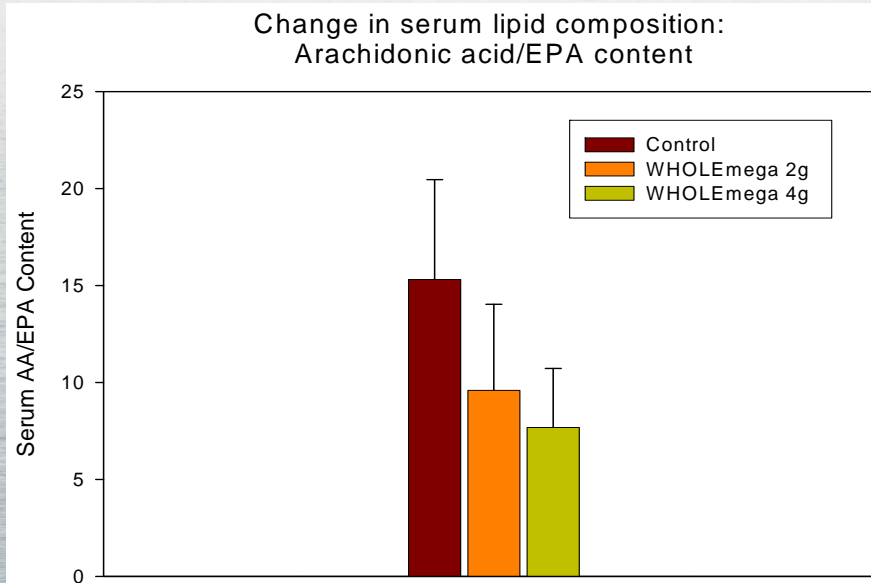


Figure 4. Consumption of NC fish oil at either 2 or 4 grams results in an easily detectable shift in AA/EPA ratios in blood. A 2 g dose results in an average 37% decline in this ratio while a 4 g dose results in an average 50% decline in serum AA/EPA ratio. Data were derived from 8 subjects consuming 2 g NC fish oil and 5 subjects consuming 4 g NC fish oil as a single serving. Data are presented as Mean +/- SE.

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Results of this human clinical trial indicate the important differences in blood chemistries due to consumption of Wholemega. Preliminary data also shows Wholemega may **down-regulate** inflammatory markers, such as **LDL (“bad”) cholesterol and C-Reactive Protein**.

<i>Changes in Blood Chemistries 24hrs Following a Single 2 gram Dose of Wholemega</i>			
<i>Data</i>	<i>Pre-dose/Post dose</i>	<i>Percent change</i>	<i>Range</i>
<i>C-RP (HS)</i>	<i>1.07/0.9</i>	<i>15.9% ↓</i>	<i>0 - 46.4%</i>
<i>LDL “Bad cholesterol”</i>	<i>172.4/149.3</i>	<i>13.4% ↓</i>	<i>4.5 – 21.6%</i>
<i>Triglycerides</i>	<i>170.6/150.2</i>	<i>11.9% ↓</i>	<i>8.5 – 18.0%</i>
<i>Cholesterol</i>	<i>246.5/226</i>	<i>8.3% ↓</i>	<i>0 – 14%</i>

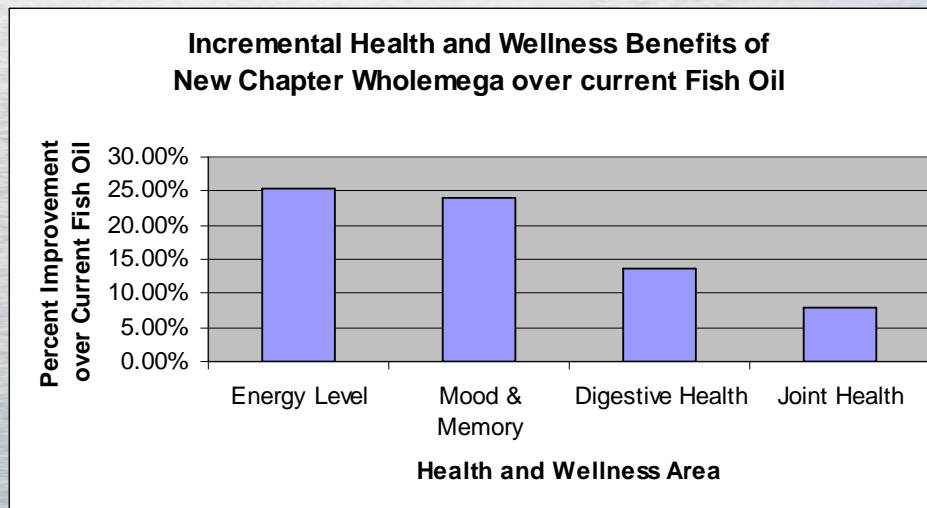
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Health & Wellness Evaluation



Participants in the human clinical trial reported significant health and wellness benefits switching to New Chapter's Wholemega.

- Health & Wellness area responses received from fish oil highest percentages of improvement (**better or much better than current**):
 - **Energy Level +25.5%**
 - **Mood & Memory +24%**
 - **Digestive +13.5%**
 - **Joint Health +8%**



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