

# Super Critical Omega

## ADVANCED Naturals

### PRODUCT MONOGRAPH

#### Product composition

Medicinal Ingredients:

Each capsule contains:

Fish oil (Anchovy, Atlantic Salmon, Sardine body oil) 1160 mg  
Providing: EPA (eicosapentaenoic acid) .....790 mg  
DHA (docosahexaenoic acid) .....140 mg  
Lipase (*Aspergillus niger*) .....5 mg / 50 FIP  
Vitamin E (d-alpha tocopherol) .....5 mg AT / 7.45 IU  
Vitamin D (cholecalciferol) .....25 mcg / 1000 IU

Non-medicinal ingredients: Beeswax, Natural Creamy Orange Flavour, Lecithin, Gelatin, Glycerin, Caramel powder, Methacrylic acid copolymer, Triethyl citrate, Propylene glycol, Water, Microcrystalline cellulose

Recommended dose: Adults: Take one capsule daily. Can take up to 3 capsules per day.

Duration of use: None.

#### Indication:

- Source of omega-3 fatty acids for the maintenance of good health.
- Source of eicosapentaenoic acid/EPA and/or docosahexaenoic acid/ DHA for the maintenance of good health.
- Helps support cognitive health and brain function.
- A factor in the maintenance of good health
- Helps in the development and maintenance of bones.
- Helps in the development and maintenance of teeth.
- Helps in the absorption and use of calcium and phosphorus.
- Calcium intake, when combined with sufficient vitamin D, a healthy diet, and regular exercise, may reduce the risk of developing osteoporosis.

Contraindications: None.

Warnings: Keep out of reach of children.

Precautions: Consult a health care practitioner prior to use if you are pregnant or breastfeeding.

Adverse Effects: None.

Overdose: For management of suspected product overdose it is recommended to contact your physician.

Symptoms of Overdose: Has not been investigated nor any reports have been filed.

#### Supporting Research and Traditional Evidence

##### Fish oil (Anchovy, Atlantic Salmon, Sardine body oil)

Fish oil has been found to be a good source of omega-3 fatty acids ( $\omega$ -3 FA), including EPA and DHA, which are important for the maintenance of good health (NHPD, 2009). Studies have suggested that  $\omega$ -3 FA may play a role in nervous system activity and may improve cognitive development and reference memory-related learning. Further, the ratio of  $\omega$ -3 FA to omega-6 fatty acids ( $\omega$ -6 FA) in particular influences processes that are vital in the maintenance of normal brain function. In the average Western diet the ratio of  $\omega$ -3 FA to  $\omega$ -6 FA needs to be increased to 1:4 for optimal mental health. (Haag 2003)

In a 6-month randomized, double-blind, placebo-controlled clinical trial examining the effects of  $\omega$ -3 FA supplementation on cognition, 204 patients with stable Alzheimer's Disease (AD) received either 1.7 g DHA plus 0.6 g EPA ( $\omega$ -3 FA-treated group)

or placebo. Positive effects were observed in a subgroup of patients who had very mild AD. Patients with stable AD who had a Mini-Mental State Examination (MMSE) score of  $\geq 15$  points and being treated with acetylcholine esterase inhibitor treatment were randomized to receive 1.7 g DHA plus 0.6 g EPA or placebo once daily for 6 months. All patients received  $\omega$ -3 FA supplementation for 6 months more. Cognition, the primary outcome, was measured using the MMSE and the cognitive portion of the Alzheimer Disease Assessment Scale. Results showed that decline in cognitive function did not differ between the groups; however, in a subgroup of patients ( $n = 32$ ), a statistically significant reduction in MMSE decline rate was observed in the  $\omega$ -3 FA-treated group versus placebo. (Freund-Levi et al. 2006)

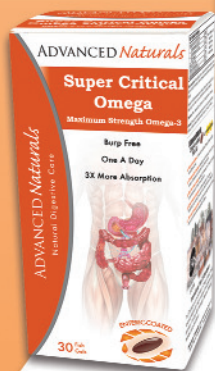
In a 35-day placebo-controlled study to examine the effects of  $\omega$ -3 FA supplementation on selected cognitive and physiological parameters, 33 healthy subjects received either  $\omega$ -3 FA or olive oil (placebo). Omega-3 supplementation was associated with improved attention and physiological function, particularly functions involving complex cortical processing. Healthy patients were tested at baseline using the Alert, Go/No-Go, Choice and Sustained Attention tests, and Profile of Mood States (POMS) test. Reaction time, the event-related potentials by electroencephalogram (EEG) and the electromyography (EMG) of the forefinger flexor muscle were recorded. Results showed a favourably reduced arachidonic acid (AA; an  $\omega$ -6 FA)/EPA ratio, improved vigour, and reduced anger, anxiety and depression states in subjects receiving  $\omega$ -3 FA versus placebo. (Fontani et al. 2005a)

In a 70-day double-blind, placebo-controlled cross-over trial to examine the effects of  $\omega$ -3 FA supplementation and diet on selected physiological parameters, 33 healthy subjects received either  $\omega$ -3 FA or placebo (olive oil) while following either the Zone diet or a diet suggested by the Italian National Research Institute for Nutrition and Foods (INRINF). Results showed AA/EPA ratio and mood state were differently influenced by diet and  $\omega$ -3 FA supplementation. Blood samples were collected at baseline, Day 35 (cross-over) and on Day 70, and the POMS test was administered on Day. Results showed an association between  $\omega$ -3 FA supplementation and a favourably reduced AA/EPA ratio, in particular for subjects who followed the Zone diet; subjects following the Zone diet reported reduced percent body fat. Reduction in AA/EPA ratio was associated with decreased insulin and homocysteine levels and with improved mood state (i.e., increased POMS index). (Fontani et al. 2005b)

In a 7-year prospective study to study the effects of fish consumption and  $\omega$ -3 FA intake in AD, 815 healthy participants aged 65 to 94 years were followed up for development of AD for approximately 3.9 years. Results showed that dietary intake of  $\omega$ -3 FA and weekly consumption of fish may reduce the risk of incident AD. Of the 815 participants, 131 developed AD. The diagnosis of AD was made using a structured neurologic examination by means of standardized criteria; and subjects completed a dietary questionnaire on average 2.3 years before clinical evaluation of the incident disease. Participants who consumed fish  $\geq 1$  time per week showed 60% less risk of developing AD compared with those who rarely or never ate fish (statistical model adjusted for age and other risk factors). Further, total intake of  $\omega$ -3 FA including DHA, was associated with a reduced risk of AD (adjusting for other dietary fats, vitamin E intake, and cardiovascular conditions). (Morris et al. 2003)

##### Lipase (*Aspergillus niger*)

In the digestive tract, lipase is essential for the breakdown and absorption of fatty acids and triglycerides. When taken with fixed



oils, such as fish oil or flaxseed oil, lipase may facilitate the absorption of the oil and may contribute to the maintenance of good health. Clinical evidence suggests that lipase improves digestive absorption rate. In a double-blind, randomized, crossover, pilot study, healthy participants were given 3 capsules containing pancrelipase, or sucrose as a control, and then fed a fatty meal. The researchers recorded the amount of gastrointestinal discomfort associated with the high fat meal, in the form of abdominal symptom scores and methane production. Treatment with digestive enzymes was associated with a significant reduction of abdominal symptoms suggesting that treatment with enzymes improved digestion of the fatty acids (Suarez *et al.* 1999). A second single-blind analysis of the use of lipases in the digestion and absorption of fatty acids was performed. Patients suffering from pancreatic insufficiency were treated with a supplement of lipase or placebo and digestive parameters were assessed for an average of 54 weeks. The results of the study suggest that treatment with digestive enzymes, such as lipase improves the absorption of fatty acids (Valerio *et al.* 1981). Scientific evidence has suggested lipase is effective with a good safety profile in improving fat absorption which contributes to good health.

### Vitamin E (d-alpha tocopherol)

Vitamin E (alpha-tocopherol) is a fat-soluble vitamin with antioxidant properties required for the preservation of cell membranes. Antioxidants protect cells from the damaging effects of free radicals which are molecules that contain an unshared electron. These unshared electrons react rapidly with oxygen to form reactive oxygen species (ROS), formed when food is converted to energy, and from environmental exposures (e.g., cigarette smoke, air pollution, and ultraviolet radiation from the sun). Vitamin E protects cells from these damaging effects of ROS. Scientists are further investigating whether, by limiting free-radical production and possibly through other mechanisms, vitamin E might help prevent or delay the chronic diseases associated with free radicals (Traber 2006; Verhagen H *et al.* 2006). The mechanisms by which vitamin E might provide this protection include its function as an antioxidant and its roles in anti-inflammatory processes, inhibition of platelet aggregation, and immune enhancement. (NHPD, 2009)

### Vitamin D (cholecalciferol)

Vitamin D is a fat-soluble vitamin essential for promoting calcium absorption in the gut, for maintaining adequate serum calcium and phosphate concentrations, and is needed to build and maintain strong bones and teeth. Too little vitamin D can cause calcium and phosphorus levels in the blood to decrease, leading to calcium being pulled out of the bones. Without sufficient vitamin D, bones become thin, brittle, or misshapen. (DeLuca HF, 2004; Favus MJ *et al.*, 1996; Goldring SR *et al.*, 1995.) Together with calcium, vitamin D also helps protect older adults from osteoporosis. Vitamin D has other roles in maintaining good health, including modulation of neuromuscular and immune function and reduction of inflammation. Many genes encoding proteins that regulate cell proliferation, differentiation, and apoptosis are modulated in part by vitamin D. (Holick MF, 2003; Hayes CE *et al.*, 2003; NHPD, 2009).

### Ingredient Summary

#### Fish oil (Anchovy, Atlantic Salmon, Sardine body oil)

- A good source of omega-3 fatty acids for the maintenance of good health.
- A good source of eicosapentaenoic acid/EPA and/or docosahexaenoic acid/ DHA for the maintenance of good health.
- Helps support cognitive health and brain function.

#### Lipase (*Aspergillus niger*)

- Breaks down fats and facilitates fatty acid absorption.

#### Vitamin E (d-alpha tocopherol)

- A factor in the maintenance of good health.

#### Vitamin D (cholecalciferol)

- A factor in the maintenance of good health.
- Helps in the development and maintenance of bones.
- Helps in the development and maintenance of teeth.
- Helps in the absorption and use of calcium and phosphorus.
- Calcium intake, when combined with sufficient vitamin D, a healthy diet, and regular exercise, may reduce the risk of developing osteoporosis.

### References

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