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ESSENTIALS

# OMEGA 3 FISH OIL

Provides EPA & DHA for heart and joint health

## Nutritional Information

One capsule provides:

\*%NRV

Fish Oil Concentrate	1000 mg		
(18% EPA/12% DHA)			
EPA (Eicosapentaenoic Acid)	180mg		
DHA (Docosahexaenoic Acid)	120mg		
Vitamin E (Si.u.)	5 mg	$\alpha$ -TE	42

$\alpha$ -TE = Alpha Tocopherol Equivalent

\*NRV = Nutrient Reference Values

Take one to two capsules daily with food.  
Swallow with water.



## SUMMARY

- A source of EPA and DHA omega 3.
- High strength.

## DESCRIPTION

The omega 3 fatty acids EPA and DHA found in fish oil have anti-inflammatory actions helping to support joint health, reduce pain and stiffness and improve mobility. They also contribute to the normal function of the heart and maintenance of the skin. DHA contributes to maintenance of normal brain function and vision. It is a key nutrient in brain structure and adequate levels are needed to influence neurocognitive development. EPA and DHA are essential fatty acids, meaning they can only be obtained via the diet or supplementation. It is recommended that post-menopausal women and the elderly take a fish oil supplements to protect heart and joint health.

## BREAKDOWN OF OMEGA 3 FATS

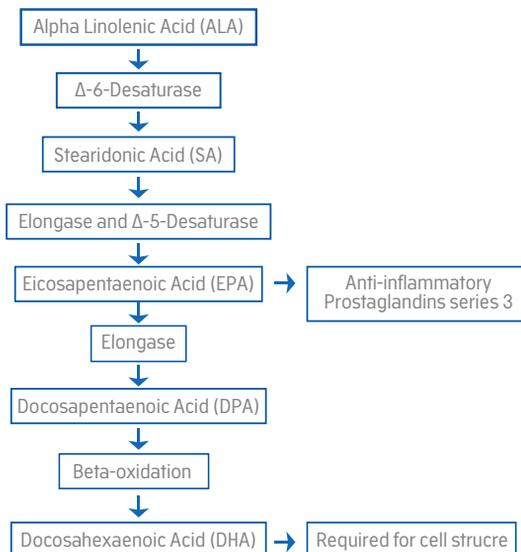
Fish oil contains a unique form of omega 3 poly-unsaturated fatty acids (PUFA) called docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). This differs from plant omega 3 – alpha linolenic acid (ALA) as it is further down the conversion cascade.

**ALA needs to be converted into EPA via 3 enzymes:** delta-6-desaturase, elongase-5 and delta-5-desaturase. The enzymes themselves may not be sufficient<sup>1</sup> in some individuals meaning that EPA and DHA from fish oil are necessary for health.

The fine balance of omega 3 and omega 6 in the body must be maintained to balance the inflammatory process. EPA converts into an eicosanoid called prostaglandins series 3 and leukotrienes series 5 which are anti-inflammatory hormones. On the other side of fatty acid conversions, there is omega 6 fats that convert into proinflammatory eicosanoids prostaglandins series 2 and leukotrienes series 4.

The general population does not consume an adequate omega 3 to 6 ratio to balance out the inflammatory eicosanoids, which can result in an increase in chronic inflammation. The ideal ratio of omega 6 to 3 is 2:1, however this is not often reached in modern diets. Increasing omega 3 EPA and DHA may help to balance out the ratio and control inflammation.

### CONVERSION PATHWAY OF OMEGA 3



## JOINT HEALTH

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**Stiffness:** Multiple studies confirm the benefits of omega 3 on joint health<sup>2</sup>. Omega 3 has been used therapeutically in rheumatoid arthritis, osteoarthritis and morning stiffness, and is effective at relieving pain<sup>2</sup> and increasing joint mobility.

**Slowing degradation of cartilage:** A major part of the therapeutic effect on osteoarthritic joints is its anti-inflammatory action, and its ability to prevent the degradation of cartilage<sup>3</sup> by blocking interleukin-1-mediated cartilage degradation<sup>4</sup>.

**Rheumatoid arthritis:** Rheumatoid arthritis being an autoimmune condition is characterised by systemic inflammation as well as joint inflammation, both of which can be improved by omega 3 fish oil. Fish oil is able to suppress the production of proinflammatory cytokines found in rheumatoid arthritis patients<sup>5</sup>, potentiating its action even further. One review found that 12 weeks of fish oil supplementation helped to decrease joint tenderness, tender joint counts and the duration of morning stiffness in patients with rheumatoid arthritis<sup>6</sup>.

## HEART HEALTH

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Multiple studies confirm the benefits of fish oil on cardiovascular health<sup>7,8,9,10,11</sup>. Fish oil decreases the level of serum triglycerides<sup>8,9,10,11</sup>, which leads to a reduction in the risk of developing arterial plaques<sup>7</sup>, ischemic heart disease<sup>9</sup> and lowers the risk of fatality after myocardial infarction<sup>12</sup>.

**Arterial plaques:** Fish oil reduces serum triglycerides by reducing very low-density lipoprotein<sup>13</sup> (VLDL). VLDL transports cholesterol and triglycerides around the body, and high concentrations are considered detrimental. High levels of blood triglycerides that become oxidised, start to accumulate on the blood vessel walls and may develop into atherosclerotic plaques increasing the potential for pieces to break off leading to blockages and myocardial infarction. Atherosclerotic plaques also harden the arteries, and can be a causative factor of high blood pressure and poor blood flow.

**Blood viscosity:** In patients that take omega 3 fish oil, the PUFA competes with omega 6 arachidonic acid for incorporation into the platelets. This affects many complex chemical reactions within the blood and decreases platelet aggregation and clot formation in male patients who are of poor health status studies conclude.<sup>14,15</sup>

## SKIN HEALTH

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As a PUFA, fish oil becomes incorporated into the skin cell membrane which increases flexibility of the cells and ultimately the skin. PUFA takes the place of saturated fats which are inflexible and can lead to fragile and cracking skin.

**Psoriasis:** Omega 3 fish oil, being an anti-inflammatory agent can help control inflammatory skin disorders such as, psoriasis and acne. One study concluded that just 8 weeks of omega 3 supplementation was enough to improve itching, scalp lesions and scaling in psoriasis patients<sup>15</sup>.

**Acne:** The evidence on omega 3 and acne is also impressive. Omega 3 supplementation were given to patients with acne vulgaris, and after just 2 months a significant difference was noted. The average lesion count decreased from 62.8 to 42.4, and skin inflammation had significantly improved<sup>16</sup>.

## BRAIN FUNCTION

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The nervous tissue in the body, including in the brain has a high fat content, and requires an adequate amount of dietary fats. DHA is an integral structural part of nerve cells, and EPA, much like in the skin is required to keep the membranes flexible which aids with nerve to nerve communication. Low fat diets can effect moods<sup>17</sup>, which demonstrates the importance of fats on brain function.

**Moods:** Omega 3 supplementation may have a positive effect on mood disorders. In one study omega 3 made a difference in the mental outlook, emotional and social well-being which improved by 24% over two months<sup>18</sup>.

**Cognition:** Other studies report that a decrease in red blood cell DHA levels are associated with smaller brains and cognitive impairment in people free from dementia<sup>19</sup>.

## MENOPAUSE

After the cessation of menstruation, the risk of cardiovascular disease and arthritis in woman increases. Fish oil supplementation may be positive for woman during peri-menopause and beyond.

**Lowering testosterone:** Omega 3 intake has been shown to lower serum concentrations of testosterone in woman<sup>20</sup>. Other studies demonstrate the ability of fish oil to decrease hot flushes and improve depressive states<sup>21</sup>. The mode of action for omega 3 is to increase oestrogen binding to cell receptor sites. Ensuring that the oestrogen present during the perimenopause is used to its full potential.

## HOW SHOULD OMEGA 3 FISH OIL BE TAKEN?

Take one to two capsules daily with food. Swallow with water.

## ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING OMEGA 3 FISH OIL?

Omega 3 fish oil is intended for individuals wishing to support heart health, brain function, inflammatory conditions and support general wellbeing.

Please consult a healthcare professional before taking while on any medication.

## FEATURES

- High strength.
- A source of EPA and DHA omega 3.

## HEALTH NEEDS



IMMUNE SYSTEM



EVERYDAY HEALTH  
AND WELLBEING



EYES



HEART AND  
CIRCULATION



JOINTS AND  
MUSCLES

## SCIENTIFIC REFERENCES

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