

# ORTHOMEGA® V



## CLINICAL APPLICATIONS

- Supports Cardiovascular Health and Blood Sugar Metabolism
- Supports Cognitive Function and Development
- Supports Healthy Skin, Joints and Connective Tissues
- Maintains Normal Inflammatory Balance
- Targeted Support to Maintain Healthy Blood Pressure and Triglyceride Levels



## CARDIOVASCULAR HEALTH

Orthomega® V is a vegan formula that contains a high concentration of omega-3 fatty acids sourced from algae. Orthomega® V provides 450 mg of docosahexaenoic acid (DHA) and 225 mg of eicosapentaenoic acid (EPA) per soft gel as re-esterified triglycerides, the preferred form with superior absorption. Vitamin E (as mixed tocopherols) and rosemary extract are also added to ensure maximum purity and freshness. This formula is independently tested to ensure potency and purity. Extensive research has shown that EPA and DHA from fish oil enhance cardiovascular health, promote improved brain function, and support healthy skin, joints and connective tissues. Orthomega® V is a unique fish oil alternative that contains the highest available concentration of vegan-sourced EPA and DHA.

### Overview

Omega-3 fatty acids are essential cornerstones of human nutrition. They are deemed “essential” because we need them for proper health but cannot produce them on our own. We must therefore consume these fats through diet or supplementation. Omega-3 fatty acids are required for several body functions, from proper blood flow to brain development. These long-chain fatty acids are integral components of bodily tissues and organ systems, including the heart, skin, joints, eyes and immune system. In nature, omega-3s occur as alpha-linolenic acid (ALA), found primarily in plants, and as long-chain EPA and DHA, which originate in algae and bioaccumulate in coldwater fish. The body is able to slowly convert the shorter-chain ALA to the more active, longer-chain EPA and DHA, thereby making a higher dietary intake necessary. In addition, major changes in the modern diet over the last century have led to a decrease in the general consumption of omega-3 fatty acids. Since omega-3 fatty acids are known to

benefit cardiovascular health, support healthy brain function and cognition, and maintain normal inflammatory balance, achieving the proper balance of omega-3s has become an integral health strategy, requiring supplementation for most people.<sup>1</sup> The American Heart Association recommends those concerned about blood lipids to take up to 4 g of omega-3 fatty acids per day.<sup>2</sup>

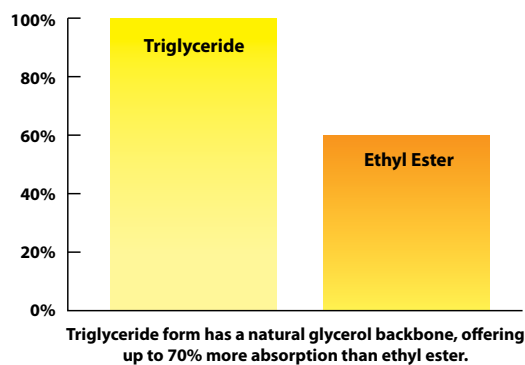
### Omega-3 Form and Function Triglycerides vs. Ethyl Esters<sup>†</sup>

While the amount of EPA and DHA provided in an omega-3 product is important for efficacy, the type of oil delivered is another significant factor in defining effectiveness. The human body is accustomed to absorbing and digesting EPA and DHA in the triglyceride form. Even though triglyceride-based oils are the preferred form for superior absorption, the vast majority of omega-3 products available on the market are in the ethyl ester form. While ethyl esters allow manufacturers to achieve higher concentrations of EPA and DHA, their unusual structure is resistant to the digestive enzymes (lipases) that enable fat breakdown. Orthomega® V comes exclusively in the higher absorption triglyceride form. In a study comparing EPA and DHA digestion in both the natural triglyceride and ethyl ester form, five common digestive lipase enzymes were shown to more readily digest fish oil in the natural triglyceride as compared to the ethyl ester substrate.<sup>3</sup>

A study conducted by omega-3 research pioneer, Dr. Jorn Dyerberg, demonstrated that omega-3s in the re-esterified triglyceride form are more efficiently digested and, therefore, 70% more absorbable than omega-3s in the ethyl ester form.<sup>4</sup>

†These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

### Relative % Bioavailability of Re-Esterified Triglyceride Compared to Regular Ethyl Ester



### Omega-3 Depletion<sup>†</sup>

An accumulating body of research shows that the typical Western diet does not provide enough omega-3s for optimal health. Additionally, insufficient conversion of ALA to the active EPA and DHA may reduce the amount available for use in organs and tissues. Symptoms of omega-3 deficiency are common and often overlooked. These may include dry, itchy or flaky skin, poor sleep quality, poor circulation, eye discomfort, and mood imbalance.<sup>5</sup> Most studies over the past three decades have focused on EPA and DHA.

### Cardiovascular and Blood Sugar Health<sup>†</sup>

Omega-3 fatty acids have long been known to benefit cardiovascular health. The well-known GISSI-Prevezione trial found that just 1 g per day of omega-3 fatty acids had a significant impact on cardiovascular health after three to four months of consumption.<sup>6</sup> EPA and DHA have been shown to modulate levels of fat in the blood,<sup>7</sup> and a meta-analysis of 31 placebo-controlled trials found that for each gram of omega-3s consumed, there was improved support for healthy blood pressure levels already within the normal range.<sup>8</sup> Population studies have also reported that omega-3 fatty acids support better blood sugar balance in populations consuming large amounts of the n-3 long-chain PUFAs.<sup>9</sup>

### DHA and Cardiovascular Effects<sup>†</sup>

Orthomega® V contains extra DHA (2:1 DHA:EPA ratio) to support optimal cardiovascular health. DHA has been found to have positive effects on key aspects of cardiovascular health, including balancing blood lipids, stabilizing cardiac function and increasing relaxation of arteries to help support normal blood pressure levels. Mori et al. has reported that 4 g per day of DHA had a significant impact on arterial health and helped to maintain healthy blood pressure levels.<sup>10,11</sup> Additionally, cerebrovascular health has been found to be supported by optimal levels of phospholipid DHA, indicating that sufficient amounts of DHA support brain circulatory health.<sup>12</sup> A systematic review of 11 randomized, controlled trials published between

1996 and 2011 analyzed the association between DHA and changes in concentrations of blood fat profile components. The review found that DHA supplementation maintains healthy blood lipid levels in people with cardiovascular concerns.<sup>13</sup> DHA, but not EPA, has also been found to enhance dilation of the arteries by decreasing the release of calcium within smooth muscle that causes arterial constriction. This novel mechanism of action makes DHA the omega-3 fatty acid of choice for those with blood pressure concerns.<sup>14</sup>

### Additional Benefits of Omega-3 Fatty Acids<sup>†</sup>

In addition to their well-known cardiovascular benefits, omega-3 fats play a central role in brain development, mood enhancement, improved cognition, joint comfort and visual acuity.

### Increased Mental Focus<sup>†</sup>

In a British study, omega-3 blood levels were shown to be directly related to improved measures of cognition, performance and behavior among healthy children with below-average reading ability.<sup>15</sup>

### Joint Comfort<sup>†</sup>

A dose of 1,200 mg per day of omega-3 essential fatty acids was found to improve back and joint discomfort from exercise or overexertion among 125 people, with 88% choosing to continue supplementation after the study's end.<sup>16</sup> Omega-3 fatty acids have also been shown to improve similarly tender joints and morning stiffness after three months of consumption.

### Visual Acuity<sup>†</sup>

A study evaluating the long-term effects of EPA and DHA on visual development in 136 school-age Inuit children exposed to high levels of n-3 PUFAs during gestation found beneficial effects of DHA intake on visual acuity.<sup>17</sup> Eating oily fish at least once per week compared with less than once per week was also found to enhance visual clarity and help support healthy macular aging.<sup>18</sup>

### Directions

1 soft gel capsule per day or as recommended by your health care professional.

### Does Not Contain

Fish, shellfish, gluten, yeast, artificial colors or flavors.

### Cautions

If you are pregnant or nursing, consult your physician before taking this product.

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# Supplement Facts<sup>V2</sup>

Serving Size 1 Soft Gel Capsule  
Servings Per Container 30 & 60

	Amount Per Serving	% Daily Value
Calories	15	
Total Fat	1 g	1%*
DHA (Docosahexaenoic Acid)	450 mg	**
EPA (Eicosapentaenoic Acid)	225 mg	**

\* Percent Daily Values are based on a 2,000 calorie diet.

\*\* Daily Value not established.

Marine Algae Oil (from *Schizochytrium* sp.), Vegan Soft Gel Capsule  
(Glycerin, Modified Corn Starch, Carrageenan, Water), Natural Mixed  
Tocopherols, Sunflower Lecithin and Rosemary Extract (Leaf).

**ID# 451030 30 Soft Gel Capsules**

**ID# 451060 60 Soft Gel Capsules**

## References

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