

The Difference between Fish Oil Fatty Acids EPA and DHA

There are two prominent omega-3 fatty acids featured in supplements. They are eicosapentanoic acid (EPA) and Docosahexaenoic acid (DHA). EPA has effects on blood clotting and has been associated with cardiovascular benefits. DHA has a different structure than EPA that gives it unique physical and functional properties. DHA can be formed from the plant essential fatty acid α -linolenic acid (ALA) as can EPA. However, this pathway does not appear to be efficient in humans meaning that it needs to be eaten in foods or supplements. Young infants may be more efficient converters of ALA to DHA than many adults, although the conversion rate is variable among infants. DHA is found in fairly high amounts in seafood, especially fatty fish, from algae, and in various omega-3 dietary supplements. After being consumed about a third of DHA is converted to EPA. The amount of DHA in seafood and in supplements varies. Breast milk contains DHA. DHA concentrations in different tissue compartments varies greatly. The brain and eye have high DHA contents compared to other organs. DHA is especially concentrated in the grey matter of the brain and in the rod outer segments of the retina. In the brain DHA is involved in signaling between nerves, while in the eye it is involved in the quality of vision. DHA is accumulated in the brain and eye late in pregnancy and in early infancy. A lower DHA content has been associated with poorer cognitive development and visual function.

Reference:Calder PC. Docosahexaenoic Acid. *Ann Nutr Metab.* 2016;69 Suppl 1:7-21.