

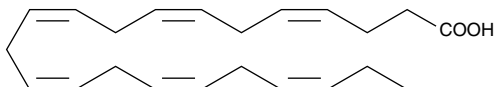
# Product Information



## Docosahexaenoic Acid

Item No. 90310

**CAS Registry No.:** 6217-54-5  
**Formal Name:** 4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic acid  
**Synonyms:** Cervonic acid, DHA  
**MF:** C<sub>22</sub>H<sub>32</sub>O<sub>2</sub>  
**FW:** 328.5  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol



### Laboratory Procedures

For long term storage, we suggest that docosahexaenoic acid (DHA) be stored as supplied at -20°C. It should be stable for at least one year.

To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of DHA in these solvents is at least 100 mg/ml.

DHA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of DHA should be diluted with the aqueous buffer of choice. DHA has a solubility of 1 mg/ml in a solution of 0.15 M Tris-HCl (pH 8.5) using this method. Store aqueous solutions of DHA on ice and use within 12 hours of preparation. Although the aqueous solutions of DHA may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

DHA is an essential fatty acid and the most abundant ω-3 fatty acid in neural tissues, especially in the retina and brain. DHA constitutes as much as 40% of the total PUFA pool in retinal and neuronal membranes.<sup>1</sup> Supplementation of dietary DHA using fish oil inhibits the progression of atherosclerosis and delays photoreceptor degeneration in retinitis pigmentosa.<sup>2</sup> Neonatal DHA deprivation causes developmental defects and can lead to hypertension in rats.<sup>3</sup>

### References

1. Salem, N., Kim, H.-Y., and Yergey, J.A. Docosahexaenoic acid: Membrane function and metabolism, Chapter 15, *in* Health Effects of Polyunsaturated Fatty Acids in Seafoods. 263-317 (1986).
2. Hoffman, D.R., Uauy, R., and Birch, D.G. Metabolism of ω-3 fatty acids in patients with autosomal dominant retinitis pigmentosa. *Exp. Eye Res.* **60**, 279-289 (1995).
3. Weisinger, H.S., Armitage, J.A., Sinclair, A.J., *et al.* Perinatal ω-3 fatty acid deficiency affects blood pressure later in life. *Nature Med.* **7**(3), 258-259 (2001).

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