# PRODUCT INFORMATION

## 4(S),11(R)-DiHDoHE

*Item No. 9001290*

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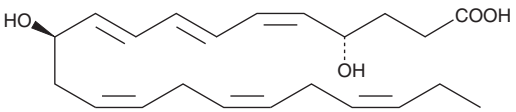
|---|---|
| **Formal Name:** | 4S,11R-dihydroxydocosa-5Z,7E,9E,13Z,16Z,19Z-hexaenoic acid |
| **MF:** | $C_{22}H_{32}O_4$ |
| **FW:** | 360.5 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 270 nm |
| **Supplied as:** | A solution in ethanol |
| **Storage:** | -20°C |
| **Stability:** | ≥1 year |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

4(S),11(R)-DiHDoHE is supplied as a solution in ethanol. 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. 4(S),11(R)-DiHDoHE is miscible in these solvents.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of 4(S),11(R)-DiHDoHE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 4(S),11(R)-DiHDoHE in PBS, pH 7.2, is approximately 0.5 mg/ml. For greater aqueous solubility, 4(S),11(R)-DiHDoHE can be directly disolved in 0.1 M $Na_2CO_3$ (solubility of 1 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration. We do not recommend storing the aqueous solution for more than one day.

### Description

Docosahexaenoic acid (DHA; Item No. 90310) is an ω-3 fatty acid that is abundant in the brain and the retina and is known to be important in early development.[1,2] Recently, various DHA metabolites, including 7(R)-Maresin 1 (Item No. 10878) and 10(S),17(S)-DiHDoHE (Item No. 10008128), have been shown to block infiltration of neutrophils during an acute inflammatory response.[3,4] 4(S),11(R)-DiHDoHE is a dihydroxy-DHA derivative. The biological actions of this compound have not yet been determined.

### References


1. Su, H.-M. Mechanisms of n-3 fatty acid-mediated development and maintenance of learning memory performance. *J. Nutr. Biochem.* **21(5)**, 364-373 (2010).
2. Wu, T.C. and Chen, P.H. Health consequences of nutrition in childhood and early infancy. *Pediatr. Neonatol.* **50(4)**, 135-142 (2009).
3. Serhan, C.N., Yang, R., Martinod, K., *et al.* Maresins: Novel macrophage mediators with potent antiinflammatory and proresolving actions. *J. Exp. Med.* **206(1)**, 15-23 (2009).
4. Serhan, C.N., Gotlinger, K., Hong, S., *et al.* Anti-inflammatory actions of neuroprotectin D1/protectin D1 and its natural stereoisomers: Assignments of dihydroxy-containing docosatrienes. *J. Immunol.* **176(3),** 1848-1859 (2006).





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