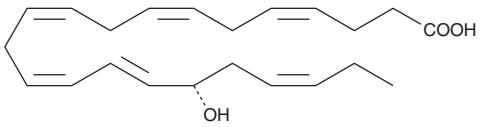
PRODUCT INFORMATION

17(S)-HDHA

Item No. 10009799

CAS Registry No.: 92693-03-3
Formal Name: 17(S)-hydroxy-4Z,7Z,10Z,13Z,15E,19Z-docosahexaenoic acid
Synonyms: 17(S)-hydroxy DHA, 17(S)-hydroxy Docosahexaenoic Acid, 17(S)-HDoHE
MF: $C_{22}H_{32}O_3$
FW: 344.5
Purity: ≥98%
UV/Vis.: λ_{max}: 237 nm ε: 25,000
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

17(S)-HDHA 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. 17(S)-HDHA 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 17(S)-HDHA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 17(S)-HDHA in PBS (pH 7.2) is approximately 0.8 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

17(S)-HDHA is a hydroxy fatty acid formed from docosahexaenoic acid (DHA; Item No. 90310) by 15-lipoxygenase (15-LO) and is a precursor to 17(S)-resolvins.[1,2] 17(S)-HDHA inhibits platelet 12-LO (IC_{50} = 0.4 µM).[2] It inhibits TNF-α-induced expression of IL1B in a human glial cell line (IC_{50} = ~0.5 nM).[1] 17(S)-HDHA (100 nM) inhibits NOD-, LRR-, and pyrin domain-containing protein 3 (NLRP3) inflammasome formation induced by homocysteine in podocytes.[3]

References

1. Hong, S., Gronert, K., Devchand, P.R., *et al.* Novel docosatrienes and 17(S)-resolvins generated from docosahexaenoic acid in murine brain, human blood, and glial cells. Autacoids in anti-inflammation. *J. Biol. Chem.* **278(17)**, 14677-14687 (2003).
2. Mitchell, P.D., Hallam, C., Hemsley, P.E., *et al.* Inhibition of platelet 12-lipoxygenase by hydroxy-fatty acids. *Biochem. Soc. Trans.* **12**, 839-841 (1984).
3. Li, G., Chen, Z., Bhat, O.M., *et al.* NLRP3 inflammasome as a novel target for docosahexaenoic acid metabolites to abrogate glomerular injury. *J. Lipid Res.* **58(6)**, 1080-1090 (2017).

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