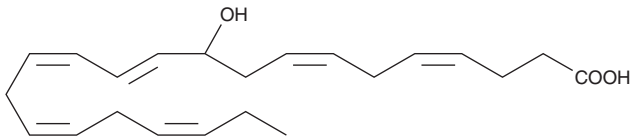
PRODUCT INFORMATION

(±)10-HDHA

Item No. 33400

CAS Registry No.: 90780-50-0
Formal Name: (±)10-hydroxy-4Z,7Z,11E,13Z,16Z, 19Z-docosahexaenoic acid
Synonyms: 10-hydroxy Docosahexaenoic Acid, (±)10-HDoHE
MF: $C_{22}H_{32}O_3$
FW: 344.5
Purity: ≥98%
UV/Vis.: λ_{max}: 237 nm
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

(±)10-HDHA is supplied as a solution in ethanol. To change the solvent, 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. (±)10-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 (±)10-HDHA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of (±)10-HDHA in PBS, pH 7.2, is approximately 0.8 mg/ml. For greater aqueous solubility, (±)10-HDHA can be directly dissolved in 0.1 M Na_2CO_3 (solubility of 2 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

Description

(±)10-HDHA is an autoxidation product of docosahexaenoic acid (DHA) *in vitro*.[1,2] It is also produced from incubations of DHA in rat liver, brain, and intestinal microsomes.[3-5] (±)10-HDHA is a potential marker of oxidative stress in brain and retina where DHA is an abundant polyunsaturated fatty acid.

References

1. VanRollins, M. and Murphy, R.C. Autooxidation of docosahexaenoic acid: Analysis of ten isomers of hydroxydocosahexaenoate. *J. Lipid Res.* **25**, 507-517 (1984).
2. Reynaud, D., Thickitt, C.P., and Pace-Asciak, C.R. Facile preparation and structural determination of monohydroxy derivatives of docosahexaenoic acid (HDoHE) by α-tocopherol-directed autoxidation. *Anal. Biochem.* **214**, 165-170 (1993).
3. VanRollins, M., Baker, R.C., Sprecher, H., *et al.* Oxidation of docosahexaenoic acid by rat liver microsomes. *J. Biol. Chem.* **259**, 5776-5783 (1984).
4. Yamane, M., Abe, A., and Yamane, S. High-performance liquid chromatography-thermospray mass spectrometry of epoxy polyunsaturated fatty acids and epoxyhydroxy polyunsaturated fatty acids from an incubation mixture of rat tissue homogenate. *Journal of Chromatography B* **652**, 123-136 (1994).
5. Kim, H.Y., Karanian, J.W., Shingu, T., *et al.* Sterochemical analysis of hydroxylated docosahexaenoates produced by human platelets and rat brain homogenate. *Prostaglandins* **40**, 473-491 (1990).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM