

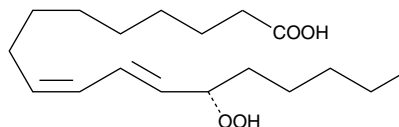
Product Information



13(S)-HpODE

Item No. 48610

CAS Registry No.: 33964-75-9
Formal Name: 13S-hydroperoxy-9Z,11E-octadecadienoic acid
MF: C₁₈H₃₂O₄
FW: 312.4
Purity: ≥98%
Stability: ≥6 months at -80°C
Supplied as: A solution in ethanol
UV/Vis: λ_{max}: 234 nm ε: 23,000



Laboratory Procedures

For long term storage, we suggest that 13(S)-HpODE be stored as supplied at -80°C. It should be stable for at least six months.

13(S)-HpODE 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. The solubility of 13(S)-HpODE in these solvents is approximately 50 mg/ml.

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 13(S)-HpODE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 13(S)-HpODE in PBS (pH 7.2) is approximately 1 mg/ml. 13(S)-HpODE is highly unstable in aqueous solutions. We recommend that aqueous solutions of 13(S)-HpODE be kept on ice and used as soon as possible, preferably within 15 minutes.

13(S)-HpODE is produced by the oxidation of linoleic acid by lipoxygenase-1 (LO-1) in many plants including soybean, flaxseed, apples, and tea leaves,^{1,2} and by 15-LO in mammals.³ In plants, 13(S)-HpODE is the preferred substrate for the garlic bulb divinyl ether synthase.⁴ In mammalian tissues, 13(S)-HpODE is generally reduced to 13(S)-HODE (Item No. 38610), a compound which exhibits many biological activities.³ A direct action for 13(S)-HpODE has been demonstrated in Syrian hamster embryo cells where it stimulates EGF-dependent mitogenesis and up-regulation of EGF-dependent tyrosine phosphorylation.⁵ Membrane-esterified 13(S)-HpODE has been identified in human atherosclerotic plaques.⁶

References

1. Gardner, H.W. *Biochim. Biophys. Acta* **1001**, 274-281 (1989).
2. Vick, B.A. Oxygenated fatty acids of the lipoxygenase pathway, Chapter 5, in *Lipid Metabolism in Plants*. Moore, T.S., Jr., editor. CRC Press, Boca Raton, 167-191 (1993).
3. Kühn, H. *Prog. Lipid Res.* **35**, 203-226 (1996).
4. Grechkin, A.N. and Hamberg, M. *FEBS Lett.* **388**, 112-114 (1996).
5. Glasgow, W.C., Hui, R., Everhart, A.L., et al. *J. Biol. Chem.* **272**, 19269-19276 (1997).
6. Folcik, V.A., Nivar-Aristy, R.A., Krajewski, L.P., et al. *J. Clin. Invest.* **96**, 504-510 (1995).

Related Products

(±)13-HpODE - Item No. 10704 • (±)9-HpODE - Item No. 10705

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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