

Product Data Sheet

Product Name: (±)13-HpODE

Cat. No.: GC40355

Chemical Properties

Cas. No. 23017-93-8

Chemical Name (±)13-hydroperoxy-9Z,11E-octadecadienoic acid

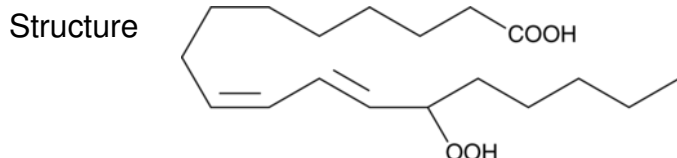
SMILES CCCCC(OO)/C=C/C=C\CCCCCCCC(O)=O

Formula C₁₈H₃₂O₄ M.Wt 312.4

Solubility 50 mg/ml in DMF, 50 mg/ml in DMSO, 50 mg/ml in ethanol Storage Store at -80°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.



Background

(±)13-HpODE is a racemic mixture of hydroperoxides derived non-enzymatically from linoleic acid through the action of reactive oxygen species. Lipid hydroperoxides, including 13-HpODE, have limited direct biological actions, such as the activation of lipoxygenases. [1] Normally, (±)13-HpODE is rapidly reduced to (±)13-HODE, a compound which exhibits many biological activities. [2] Importantly, 13-HpODE can also be metabolized to unsaturated aldehydes that can, in turn, covalently bind to DNA, amino acids, and proteins. [3][4][5]

Reference:

[1]. Jones, G.D., Russell, L., Darley-USmar, V.M., et al. Role of lipid hydroperoxides in the activation of 15-lipoxygenase. *Biochemistry* 35, 7197-7203 (1996).

[2]. Kühn, H. Biosynthesis, metabolization and biological importance of the primary 15-lipoxygenase

Caution: Product has not been fully validated for medical applications. For research use only.

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metabolites 15-hydro(pero)xy-5Z,8Z,11Z,13E-eicosatetraenoic acid and 13-hydro(pero)xy-9Z,11E-octadecadienoic acid. Progress in Lipid Research 35, 203-226 (1996).

[3]. Williams, M.V., Wishnok, J.S., and Tannenbaum, S.R. Covalent adducts arising from the decomposition products lipid hydroperoxides in the presence of cytochrome C. Chemical Research in Toxicology 20(5), 767-775 (2007).

[4]. Iwahashi, H., Nishizaki, K., and Takagi, I. Cytochrome c catalyzes the formation of pentyl radical and octanoic acid radical from linoleic acid hydroperoxide. Biochemistry Journal 361, 57-66 (2002).

[5]. Kawai, Y., Kato, Y., Fujii, H., et al. Immunochemical detection of a novel lysine adduct using an antibody to linoleic acid hydroperoxide-modifies protein. Journal of Lipid Research 44, 1124-1131 (2003).

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