

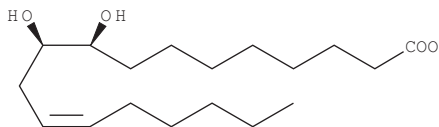
PRODUCT INFORMATION



(±)9(10)-DiHOME

Item No. 53400

CAS Registry No.: 263399-34-4
Formal Name: (±)9,10-dihydroxy-12Z-octadecenoic acid
Synonym: Leukotoxin Diol
MF: C₁₈H₃₄O₄
FW: 314.5
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥1 year



NOTE: Relative stereochemistry shown in chemical structure

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

Laboratory Procedures

(±)9(10)-DiHOME is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of (±)9(10)-DiHOME in these solvents is approximately 20 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 (±)9(10)-DiHOME is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of (±)9(10)-DiHOME in PBS (pH 7.2) is approximately 10 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(±)9(10)-DiHOME is the diol form of (±)9(10)-EpOME (Item No. 52400), a cytochrome P450-derived epoxide of linoleic acid (Item Nos. 90150 | 90150.1 | 21909) also known as leukotoxin.¹ It is formed from 9(10)-EpOME by soluble epoxide hydrolase (sEH) in neutrophils.² It is toxic to Sf21 cells expressing sEH and to *lacZ*-expressing control cells, unlike leukotoxin, which is only toxic to cells containing sEH.^{1,2} A mixture of 9(10)- and 12(13)-DiHOME induces cell death in rabbit renal proximal tubule cells concomitant with mitochondrial respiration dysfunction and induces lung injury, respiratory distress, and mortality in mice.^{3,4} 9(10)-DiHOME is a toxic lipid mediator involved in acute respiratory distress syndrome (ARDS), a common and often fatal complication in severe burn victims.^{2,3} Levels of 9(10)-DiHOME are increased in bronchoalveolar lavage fluid (BALF) from women, but not men, with chronic obstructive pulmonary disease (COPD).⁵ BALF levels are also increased in patients with allergic asthma following allergen exposure compared to patients without allergic asthma.⁶ It has been used as a plasma biomarker for sEH activity *in vivo*.⁷

References

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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.

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