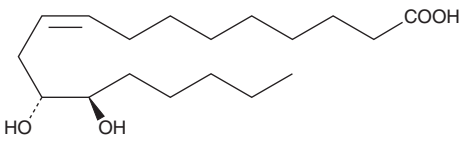
PRODUCT INFORMATION

(±)12(13)-DiHOME

Item No. 10009832

CAS Registry No.:	263399-35-5
Formal Name:	12,13-dihydroxy-9Z-octadecenoic acid
Synonym:	Isoleukotoxin diol
MF:	$C_{18}H_{34}O_4$
FW:	314.5
Purity:	≥98%
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥2 years



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

(±)12(13)-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 (±)12(13)-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 (±)12(13)-DiHOME is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of (±)12(13)-DiHOME in PBS (pH 7.2) is approximately 0.01 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(±)12(13)-DiHOME is the diol form of (±)12(13)-EpOME (Item No. 52450), a cytochrome P450-derived epoxide of linoleic acid (Item Nos. 90150 | 90150.1 | 21909) also known as isoleukotoxin.[1] It is formed from 12(13)-EpOME by soluble epoxide hydrolase (sEH) in neutrophils.[2] 12(13)-DiHOME is toxic to Sf21 cells expressing sEH and to *lacZ*-expressing control cells, unlike isoleukotoxin, which is only toxic to cells containing sEH.[1,2] Levels of 12(13)-DiHOME are increased in rat spinal cord following burn injury, and it enhances cold tolerance, increases fatty acid uptake into brown adipocytes, and decreases serum triglyceride levels in mice.[3,4] Levels are also elevated in bronchoalveolar lavage fluid (BALF) in humans following exposure to biodiesel exhaust and in exhaled breath condensate in patients with allergic asthma following allergen exposure.[5,6] Plasma levels of 12(13)-DiHOME are increased immediately following moderate-intensity exercise in mice and humans, an effect that can be prevented by brown adipose tissue removal in the mouse.[7]

References

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5. Gouveia-Figueira, S., Karimpour, M., Bosson, J.A., *et al. Anal. Bioanal. Chem.* **409(11)**, 2967-2980 (2017).
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