

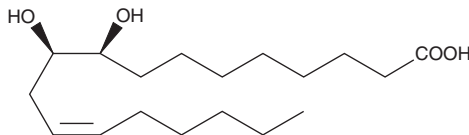
# Product Information



## (±)9,10-DiHOME

Catalog No. 53400

**CAS Registry No.:** 263399-34-4  
**Formal Name:** (±)9(10)-dihydroxy-12Z-octadecenoic acid  
**Synonyms:** (±)9(10)-Dihydroxy-Octadec-12-Enoic Acid; Leukotoxin Diol  
**MF:** C<sub>18</sub>H<sub>34</sub>O<sub>4</sub>  
**FW:** 314.5  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in methyl acetate



### Laboratory Procedures

For long term storage, we suggest that (±)9,10-DiHOME be stored as supplied at -20°C. It should be stable for at least one year.

(±)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.

Leukotoxin is the 9(10)-epoxide of linoleic acid, generated by neutrophils during the oxidative burst.<sup>1-3</sup> This unstable compound is rapidly degraded by epoxide hydrolases to form the diol, 9,10-DiHOME.<sup>4</sup> Mitochondrial dysfunction, vasodilation, and apoptosis are features of leukotoxin toxicity. In renal proximal tubular cells, the diol hydrolysis products of leukotoxin, such as 9,10-DiHOME, have been directly implicated as the cytotoxic agent responsible for cell death.<sup>5</sup>

### References

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- Ozawa, T., Hayakawa, M., Takamura, T., *et al.* Biosynthesis of leukotoxin, 9,10-epoxy-12 octadecenoate, by leukocytes in lung lavages of rat after exposure to hyperoxia. *Biochem. Biophys. Res. Commun.* **134**, 1071-1078 (1986).
- Greene, J.F., Williamson, K.C., Newman, J.W., *et al.* Metabolism of monoepoxides of methyl linoleate: bioactivation and detoxification. *Arch. Biochem. Biophys.* **376**, 420-432 (2000).
- Moran, J.H., Weise, R., Schnellmann, R.G., *et al.* Cytotoxicity of linoleic acid diols to renal proximal tubular cells. *Toxicol. Appl. Pharmacol.* **146**, 53-59 (1997).

### Related Products

(±)9(10)-EpOME - Cat. No. 52400 • (±)9,10-DiHOME - Cat. No. 10009993

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**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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