

PRODUCT INFORMATION



(±)9(10)-EpOME-d₄

Item No. 10009995

Formal Name: (±)9(10)epoxy-12Z-octadecenoic
9,10,12,13-d₄ acid

Synonyms: (±)9,10-EODE-d₄, Leukotoxin-d₄, MF:
C₁₈H₂₈D₄O₃

FW: 300.5

Chemical Purity: ≥98%

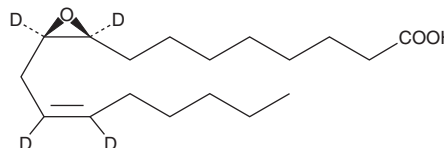
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀

Supplied as: A solution in methyl acetate

Storage: -20°C

Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly



NOTE: Relative stereochemistry shown in chemical structure

Laboratory Procedures

(±)9,10-EpOME-d₄ contains four deuterium atoms at the 9, 10, 12, and 13 positions. It is intended for use as an internal standard for the quantification of 9,10-EpOME by GC- or LC-mass spectrometry (MS).

(±)9,10-EpOME-d₄ 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-EpOME-d₄ in these solvents is approximately 50 mg/ml.

(±) 9,10-EpOME-d₄ is used as an internal standard for the quantification of (±)9,10-EpOME (Item No. 52400) by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Description

(±)9(10)-EpOME is the 9,10-*cis* epoxide of linoleic acid, generated by neutrophils during the oxidative burst.¹ It has been recovered from the lungs of hyperoxic rats and from humans with acute respiratory distress syndrome.² Mitochondrial dysfunction is the main feature of (±)9(10)-EpOME cytotoxicity, which may be due to the diol metabolites as well as the parent epoxide.^{3,4}

References

- Hayakawa, M., Sugiyama, S., Takamura, T., *et al.* Neutrophils biosynthesize leukotoxin, 9,10-epoxy-12-octadecenoate. *Biochem. Biophys. Res. Commun.* **137**, 424-430 (1986).
- 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).
- Kosaka, K., Suzuki, K., Hayakawa, M., *et al.* Leukotoxin, a linoleate epoxide: Its implication in the late death of patients with extensive burns. *Mol. Cell. Biochem.* **139**, 141-148 (1994).
- 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).

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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