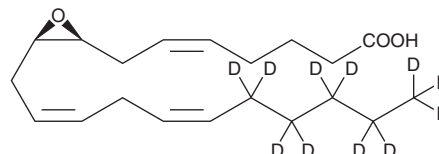


PRODUCT INFORMATION



(±)8(9)-EET-d₁₁
Item No. 10009532

Formal Name: (±)8(9)-epoxy-5Z,8Z,14Z-eicosatrienoic-16,16,17,17,18,18,19,19,20,20,20-d₁₁ acid
Synonyms: (±)8,9-EET-d₁₁, (±)8,9-EpETRE-d₁₁
MF: C₂₀H₂₁D₁₁O₃
FW: 331.5
Chemical Purity: ≥98% ((±)8(9)-EET)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₁); ≤1% d₀
Supplied as: A solution in ethanol
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

(±)8(9)-EET-d₁₁ is intended for use as an internal standard for the quantification of 8(9)-EET by GC- or LC-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).

(±)8(9)-EET-d₁₁ is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of (±)8(9)-EET-d₁₁ in these solvents is approximately 50 mg/ml.

Description

(±)8(9)-EET is a racemic mixture of the R/S enantiomeric forms biosynthesized from arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607).^{1,2} (±)8(9)-EET is a major cytochrome P450 (CYP) metabolite in the renal cortex.³ It activates PPAR α in HEK293 cells when used at a concentration of 1 μ M but inhibits NF- κ B activity induced by IL-1 β in a PPAR α -dependent and -independent fashion.⁴ It is also a substrate of COX-1 and COX-2, as measured by oxygen consumption and product formation assays when used at a concentration of 50 μ M.⁵ (8S,9R)-EET (1 μ g/kg), but not (8R,9S)-EET, reduces the glomerular filtration rate (GFR) through COX-dependent pre-glomerular vasoconstriction in rats.⁶

References

1. Chacos, N., Falck, J.R., Wixtrom, C., *et al.* Novel epoxides formed during the liver cytochrome P-450 oxidation of arachidonic acid. *Biochem. Biophys. Res. Commun.* **104(3)**, 916-922 (1982).
2. Oliw, E.H., Guengerich, F.P., and Oates, J.A. Oxygenation of arachidonic acid by hepatic monooxygenases. Isolation and metabolism of four epoxide intermediates. *J. Biol. Chem.* **257(7)**, 3771-3781 (1982).
3. Zhang, J.Y., Prakash, C., Yamashita, K., *et al.* Regiospecific and enantioselective metabolism of 8,9-epoxyeicosatrienoic acid by cyclooxygenase. *Biochem. Biophys. Res. Commun.* **183(1)**, 138-143 (1992).
4. Bystrom, J., Wray, J.A., Sugden, M.C., *et al.* Endogenous epoxygenases are modulators of monocyte/macrophage activity. *PLoS One* **6(10)**, e26591 (2011).
5. Rand, A.A., Barnych, B., Morisseau, C., *et al.* Cyclooxygenase-derived proangiogenic metabolites of epoxyeicosatrienoic acids. *Proc. Natl. Acad. Sci. USA* **114(17)**, 4370-4375 (2017).
6. Katoh, T., Takahashi, K., Capdevila, J., *et al.* Glomerular stereospecific synthesis and hemodynamic actions of 8,9-epoxyeicosatrienoic acid in rat kidney. *Am. J. Physiol.* **261(4 Pt 2)**, F578-F586 (1991).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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