

PRODUCT INFORMATION



11S(12R)-EET

Item No. 9004348

CAS Registry No.: 123931-40-8
Formal Name: 10-[(2S,3R)-3-(2Z)-2-octen-1-yl-2-oxiranyl]-5Z,8Z-decadienoic acid

Synonyms: 11S(12R)-EpETrE,
11S(12R)-epoxy-5(Z),8(Z),14(Z)-ETrE,
11S(12R)-epoxy-all-cis-5,8,14-Eicosatrienoic Acid,
11S(12R)-Epoxyeicosatrienoic Acid, FA 20:4;O

MF: C₂₀H₃₂O₃

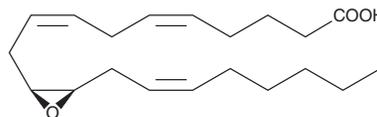
FW: 320.5

Purity: ≥95%

Supplied as: A 250 µg/ml solution in ethanol

Storage: -20°C

Stability: ≥1 year



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

Laboratory Procedures

11S(12R)-EET 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 acetonitrile purged with an inert gas can be used. 11S(12R)-EET is sparingly soluble (1-10 mg/ml) in acetonitrile.

Description

11S(12R)-EET is an oxylipin and a metabolite of arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607).^{1,2} It is selectively formed from arachidonic acid by the cytochrome P450 (CYP) isoform CYP2B2 over CYP2C23 and CYP2C24, as well as CYP2C9 over CYP2C8. 11S(12R)-EET (50 nM) activates large-conductance calcium-activated potassium channels (K_{Ca}1.1/BK) in isolated rat coronary small arterial smooth muscle cells.³ It induces dilation of precontracted isolated canine epicardial arterioles (EC₅₀ = 20 pM) and denuded porcine subepicardial arterioles (EC₅₀ = 10 pM). Unlike 11R(12S)-EET (Item No. 9004344), 11S(12R)-EET does not inhibit the epithelial sodium channel (ENaC) in a patch-clamp assay using isolated rat cortical collecting duct tubules or induce migration of human umbilical vein endothelial cells (HUVECs).^{4,5}

References

1. Capdevila, J.H., Falck, J.R., and Harris, R.C. Cytochrome P450 and arachidonic acid bioactivation: Molecular and functional properties of the arachidonate monooxygenase. *J. Lipid Res.* **41(2)**, 163-181 (2000).
2. Daikh, B.E., Lasker, J.M., Raucy, J.L., et al. Regio- and stereoselective epoxidation of arachidonic acid by human cytochromes P450 2C8 and 2C91. *J. Pharmacol. Exp. Ther.* **271(3)**, 1427-1433 (1994).
3. Zhang, Y., Oltman, C.L., Lu, T., et al. EET homologs potently dilate coronary microvessels and activate BK_{Ca} channels. *Am. J. Physiol. Heart Circ. Physiol.* **280(6)**, H2430-H2440 (2001).
4. Sun, P., Lin, D.H., Yue, P., et al. High potassium intake enhances the inhibitory effect of 11,12-EET on ENaC. *J. Am. Soc. Nephrol.* **21(10)**, 1667-1677 (2010).
5. Ding, Y., Frömel, T., Popp, R., et al. The biological actions of 11,12-epoxyeicosatrienoic acid in endothelial cells are specific to the R/S-enantiomer and require the Gs protein. *J. Pharmacol. Exp. Ther.* **350(1)**, 14-21 (2014).

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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