

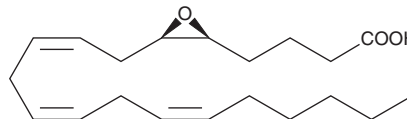
PRODUCT INFORMATION



(±)5(6)-EET

Item No. 50211

CAS Registry No.: 87173-80-6
Formal Name: (±)5,6-epoxy-8Z,11Z,14Z-eicosatrienoic acid
Synonym: (±)5,6-EpETrE
MF: C₂₀H₃₂O₃
FW: 320.5
Purity: ≥95% (mixture of free acid and lactone)
Supplied as: A solution in ethanol
Storage: -80°C
Stability: ≥1 year



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

(±)5(6)-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 DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of (±)5(6)-EET in these solvents is approximately 50 mg/ml. (±)5(6)-EET is stable for at least two months in these solvents if stored at -80°C.

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 (±)5(6)-EET is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of (±)5(6)-EET in PBS (pH 7.2) is approximately 1 mg/ml. Store aqueous solutions of (±)5(6)-EET on ice and use within 12 hours. We strongly recommend using a fresh preparation each day.

Description

5(6)-EET is a fully racemic version of the enantiomeric forms biosynthesized from arachidonic acid (Item No. 90010) by cytochrome P450 enzymes.^{1,2} In solution, 5(6)-EET degrades into 5,6-DiHET and 5(6)-δ-lactone, which can be converted to 5(6)-DiHET and quantified by GC-MS.³ In neuroendocrine cells, such as the anterior pituitary and pancreatic islets, 5(6)-EET has been implicated in the mobilization of calcium and hormone secretion.^{4,5} 5(6)-EET is an inhibitor of T-type voltage-gated calcium channels (Ca_v3) that inhibits isoforms Ca_v3.1, Ca_v3.2 (IC₅₀ = 0.54 μM), and Ca_v3.3 and decreases nifedipine-resistant phenylephrine-induced vasoconstriction in isolated mouse mesenteric arteries via Ca_v3.2 blockade when used at a concentration of 3 μM.⁶ In addition, it is a substrate of COX-1 and COX-2, as measured by oxygen consumption and product formation assays when used at a concentration of 50 μM.⁷ (±)5(6)-EET is provided as a mixture of the free acid and lactone.

References

1. Chacos, N., Falck, J.R., Wixtrom, C., *et al. Biochem. Biophys. Res. Commun.* **104**(3), 916-922 (1982).
2. Oliw, E.H., Guengerich, F.P., and Oates, J.A. *J. Biol. Chem.* **257**(7), 3771-3781 (1982).
3. Rashid, M., Manivet, P., Nishio, H., *et al. Life Sci.* **73**(2), 193-207 (2003).
4. Snyder, C., Lattanzio, F., Yadagiri, P., *et al. Biochem. Biophys. Res. Commun.* **139**(3), 1188-1194 (1986).
5. Falck, J.R., Manna, S., Moltz, J., *et al. Biochem. Biophys. Res. Commun.* **114**(2), 743-749 (1983).
6. Cazade, M., Bidaud, I., Hansen, P.B., *et al. Pflugers Arch.* **466**(9), 1759-1768 (2014).
7. Rand, A.A., Barnych, B., Morisseau, C., *et al. Proc. Natl. Acad. Sci. USA* **114**(17), 4370-4375 (2017).

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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