

Product Data Sheet

Product Name: (±)5(6)-EET-d11

Cat. No.: GC46262

Chemical Properties

Cas. No. N/A

SMILES [2H]C(C([2H])([2H])C([2H])([2H])[2H])([2H])C([2H])([2H])C([2H])([2H])/C=C/C/C=C/C/C=C/C/C[C@@H](O1)[C@@H]1CCCC(O)=O

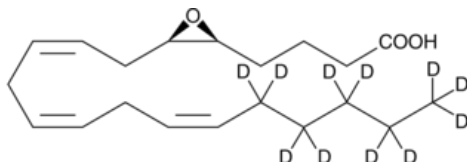
Formula C₂₀H₂₁D₁₁O₃ M.Wt 331.5

Solubility DMF: 50 mg/ml, DMSO: 50 mg/ml, Ethanol: 50 mg/ml, PBS (pH 7.2): 1 mg/ml
Storage Store at -80°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



NOTE: Relative stereochemistry shown in chemical structure

Background

5(6)-EET-d₁₁ is intended for use as an internal standard for the quantification of (±)5(6)-EET by GC- or LC-MS. 5(6)-EET is a fully racemic version of the enantiomeric forms biosynthesized from arachidonic acid 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

Caution: Product has not been fully validated for medical applications. For research use only.

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mesenteric arteries *via* Ca_v3.2 blockade when used at a concentration of 3 μ M.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 μ M.⁷ ($\pm$)5(6)-EET-d11 is provided as a mixture of the free acid and lactone.

1.Chacos, N., Falck, J.R., Wixtrom, C., et al.Novel epoxides formed during the liver cytochrome P-450 oxidation of arachidonic acidBiochem. 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 intermediatesJ. Biol. Chem.257(7)3771-3781(1982) 3.Rashid, M., Manivet, P., Nishio, H., et al.Identification of the binding sites and selectivity of sarpogrelate, a novel 5-HT₂ antagonist, to human 5-HT_{2A}, 5-HT_{2B} and 5-HT_{2C} receptor subtypes by molecular modelingLife Sci.73(2)193-207(2003) 4.Snyder, C., Lattanzio, F., Yadagiri, P., et al.5,6-Epoxyeicosatrienoic acid mobilizes Ca²⁺ in anterior pituitary cellsBiochem. Biophys. Res. Commun.139(3)1188-1194(1986) 5.Falck, J.R., Manna, S., Moltz, J., et al.Epoxyeicosatrienoic acids stimulate glucagon and insulin release from isolated rat pancreatic isletsBiochem. Biophys. Res. Commun.114(2)743-749(1983) 6.Cazade, M., Bidaud, I., Hansen, P.B., et al.5,6-EET potently inhibits T-type calcium channels: Implication in the regulation of the vascular tonePflugers Arch.466(9)1759-1768(2014) 7.Rand, A.A., Barnych, B., Morisseau, C., et al.Cyclooxygenase-derived proangiogenic metabolites of epoxyeicosatrienoic acidsProc. Natl. Acad. Sci. USA114(17)4370-4375(2017)

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