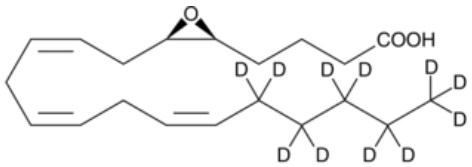
Product Data Sheet

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@@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-d_{11} 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 $Ca_V3.1$, $Ca_V3.2$ (IC_{50} = 0.54 µM), and $Ca_V3.3$ and decreases nifedipine-resistant phenylephrine-induced vasoconstriction in isolated mouse

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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-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-HT2A, 5-HT2B and 5-HT2C 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)