PRODUCT INFORMATION

(±)17(18)-EpETE
Item No. 50861

Formal Name: (±)17,18-epoxy-5Z,8Z,11Z,14Z-eicosatetraenoic acid
Synonyms: (±)17,18-EEQ, (±)17,18-epoxy Eicosatetraenoic Acid
MF: C₂₀H₃₀O₃
FW: 318.5
Purity: ≥90%
Supplied as: A solution in ethanol
Storage: -20°C
Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

(±)17(18)-EpETE 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 (±)17(18)-EpETE in these solvents is approximately 50 mg/ml.

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 (±)17(18)-EpETE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of (±)17(18)-EpETE in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The epoxygenase pathway is one of the three major branches of eicosanoid biosynthesis. However, the cytochrome P450 metabolites of eicosapentaenoic acid (EPA; Item No. 90110) and docosahexaenoic acid (DHA; Item No. 90310) have been little studied relative to arachidonate epoxygenase metabolites. (±)17(18)-EpETE is biosynthesized by the stereospecific epoxidation of the ω-3 bond of EPA. (±)17(18)-EpETE at 100 nM was found to be a potent and selective activator of BK-type calcium activated potassium ion channels in vascular smooth muscle cells. It is possible that some of the physiologic effects of fish oil-enhanced diets could be due to this epoxygenase metabolite.

References