

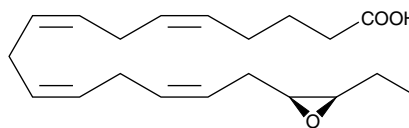
Product Information



17(18)-EpETE

Item No. 50861

Formal Name: (\pm)17(18)-epoxy-5Z,8Z,11Z,14Z-eicosatetraenoic acid
Synonyms: 17,18 EEQ, 17,18-epoxy Eicosatetraenoic Acid
MF: C₂₀H₃₀O₃
FW: 318.5
Purity: \geq 90%
Stability: \geq 1 year at -20°C
Supplied as: A solution in ethanol



NOTE: Relative stereochemistry shown in chemical structure

Laboratory Procedures

For long term storage, we suggest that 17(18)-EpETE be stored as supplied at -20°C. It will be stable for at least one year.

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.

The epoxygenase pathway is one of the three major branches of eicosanoid biosynthesis.^{1,2} However, the cytochrome P450 metabolites of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) 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.³ It is possible that some of the physiologic effects of fish oil-enhanced diets could be due to this epoxygenase metabolite.

References

1. Fitzpatrick, F.A. and Murphy, R.C. Cytochrome P-450 metabolism of arachidonic acid: Formation and biological actions of "epoxygenase"-derived eicosanoids. *Pharmacol. Rev.* **40**, 229-241 (1989).
2. Oliw, E.H., Bylund, J., and Herman, C. Bisallylic hydroxylation and epoxidation of polyunsaturated fatty acids by cytochrome P450. *Lipids* **31**, 1003-1996 (1996).
3. Lauterbach, B., Barbosa-Sicard, E., Wang, M.-H., *et al.* Cytochrome P450-dependent eicosapentaenoic acid metabolites are novel BK channel activators. *Hypertension* **39**, 609-613 (2002).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/50861

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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