

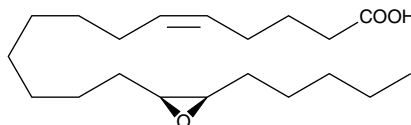
Product Information



14,15-EE-5(Z)-E

Item No. 10004946

CAS Registry No.: 519038-92-7
Formal Name: 13-[(2R,3S)-3-pentylloxiranyl]-5Z-tridecenoic acid
Synonym: 14,15-Epoxyeicosa-5(Z)-enoic Acid
MF: C₂₀H₃₆O₃
FW: 324.5
Purity: ≥98%
Stability: ≥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 14,15-EE-5(Z)-E be stored as supplied at -20°C. It will be stable for at least one year.

14,15-EE-5(Z)-E 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 14,15-EE-5(Z)-E in these solvents is approximately 10 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 14,15-EE-5(Z)-E is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 14,15-EE-5(Z)-E in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Epoxyeicosatrienoic acids (EETs), such as 11(12)-EET and 14(15)-EET, are cytochrome P450 metabolites of arachidonic acid that have been identified as endothelium-derived hyperpolarizing factors with vasodilator activity.¹ 14,15-EE-5(Z)-E is a structural analog of 14(15)-EET that antagonizes EET-induced relaxation of vascular smooth muscle.² Relaxation of U46619-constricted bovine arteries by 14,15-EET could be inhibited approximately 80% by 14,15-EE-5(Z)-E at a concentration of 10 μM. 14,15-EE-5(Z)-E does not appear to antagonize nitric oxide- or iloprost-mediated vascular relaxation.

References

1. Fleming, I. Cytochrome P450 epoxygenases as EDHF synthase(s). *Pharmacol. Res.* **49**, 525-533 (2004).
2. Gauthier, K.M., Deeter, C., Krishna, U.M., *et al.* 14,15-Epoxyeicosa-5(Z)-enoic acid: A selective epoxyeicosatrienoic acid antagonist that inhibits endothelium-dependent hyperpolarization and relaxation in coronary arteries. *Circ. Res.* **90**, 1028-1036 (2002).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10004946

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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