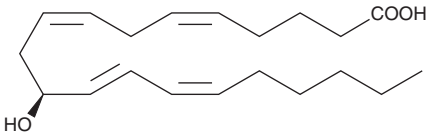
PRODUCT INFORMATION

11(S)-HETE

Item No. 34510

CAS Registry No.: 54886-50-9
Formal Name: 11S-hydroxy-5Z,8Z,12E,14Z-eicosatetraenoic acid
Synonym: 11(S)-Hydroxyeicosatetraenoic Acid
MF: $C_{20}H_{32}O_3$
FW: 320.5
Purity: ≥98%
UV/Vis.: λ_{max}: 236 nm ε: 27,000
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years
Special Conditions: Oxygen and light sensitive



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

11(S)-HETE 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. 11(S)-HETE is miscible in these solvents.

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 11(S)-HETE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 11(S)-HETE in PBS (pH 7.2) is approximately 0.8 mg/ml. For greater aqueous solubility, 11(S)-HETE can be directly disolved in 0.1 M sodium carbonate (2 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

Description

11(S)-HETE is an oxylipin and the (S) enantiomer of 11(R)-HETE (Item No. 34505). It is formed non-enzymatically from arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607).[1] Levels of 11(S)-HETE are higher than those of 11(R)-HETE in isolated human plasma and serum and in LPS-stimulated isolated human plasma. Serum labels of 11(S)-HETE decrease in patients with allergic rhinitis after one year of double-mite subcutaneous immunotherapy (DM-SCIT) and are associated with an improved quality of life in regards to rhinoconjunctivitis.[2]

References

1. Mazaleuskaya, L.L., Salamatipour, A., Saratopoulou, D., *et al.* Analysis of HETEs in human whole blood by chiral UHPLC-ECAPCI/HRMS. *J. Lipid Res.* **59(3)**, 564-575 (2018).
2. Zheng, P., Yan, G., Zhang, Y., *et al.* Metabolomics reveals process of allergic rhinitis patients with single- and double-species mite subcutaneous immunotherapy. *Metabolites* **11(9)**, 613 (2021).

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