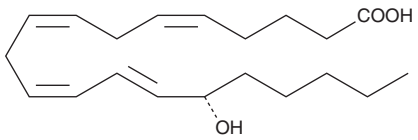
PRODUCT INFORMATION

15(S)-HETE

Item No. 34720

CAS Registry No.: 54845-95-3
Formal Name: 15S-hydroxy-5Z,8Z,11Z,13E-eicosatetraenoic acid
Synonym: 15(S)-Hydroxyeicosatetraenoic Acid
MF: $C_{20}H_{32}O_3$
FW: 320.5
Purity: ≥98%
UV/Vis.: λ_{max}: 236 nm
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

15(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. 15(S)-HETE is miscible in these solvents. The solubility of 15(S)-HETE in 0.1 M Na_2CO_3 is approximately 2 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 15(S)-HETE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 15(S)-HETE in PBS (pH 7.2) is approximately 0.8 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

15(S)-HETE is an active metabolite of arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607).[1] It is formed via oxidation of arachidonic acid by 15-lipoxygenase 2 (15-LO-2) in macrophages, as well as the prostate, lung, and skin, but also by 15-LO-1 in airway epithelial cells, eosinophils, and reticulocytes.[2,3] 15(S)-HETE inhibits the proliferation of HT-29 colorectal and PC3 prostate cancer cells (IC_{50}s = 40 and 30 µM, respectively).[4,5] It increases kruppel-like factor 10 (KLF10) and decreases B cell lymphoma 2 (Bcl-2) protein levels in HT-29 cells when used at a concentration of 40 µM.[4] 15(S)-HETE (0.1 µM) increases HMG-CoA reductase protein levels in human dermal microvascular endothelial cells (HDMVECs).[6] It increases Rac1 protein levels and induces farnesylation of Rac1 in HDMVECs when used at a concentration of 0.1 µM.

References

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3. Powell, W.S. and Rokach, J. *Biochim. Biophys. Acta* **1851(4),** 340-355 (2014).
4. Chen, G.G., Xu, H., Lee, J.F.Y., *et al. Int. J. Cancer* **107(5),** 837-843 (2003).
5. Shappell, S.B., Gupta, R.A., Manning, S., *et al. Cancer Res.* **61,** 497-503 (2001).
6. Singh, N.K., Kundumani-Sridharan, V., and Rao, G.N. *Blood* **118(20),** 5701-5712 (2011).

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