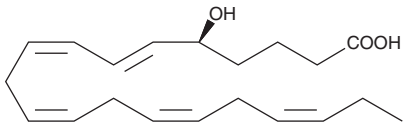
PRODUCT INFORMATION

5(S)-HEPE

Item No. 32210

CAS Registry No:	92008-51-0
Formal Name:	5S-hydroxy-6E,8Z,11Z,14Z,17Z-eicosapentaenoic acid
MF:	$C_{20}H_{30}O_3$
FW:	318.5
Purity:	≥ 98%
UV/Vis.:	λ_{max}: 236 nm
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

5(S)-HEPE 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. 5(S)-HEPE 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 5(S)-HEPE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 5(S)-HEPE in PBS, pH 7.2 is approximately 0.8 mg/ml. For greater aqueous solubility, 5(S)-HEPE can be directly disolved in 0.1 M Na_2CO_3 (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

5(S)-HEPE is an active metabolite of eicosapentaenoic acid (EPA; Item Nos. 90110 | 90110.1 | 21908).[1] It is formed from EPA by 5-lipoxygenase (5-LO). 5(S)-HEPE is an agonist of G protein-coupled receptor 119 (GPR119).[2] It increases cAMP accumulation in CHO-K1 cells expressing human GPR119 when used at a concentration of 10 µM. 5(S)-HEPE increases glucose-induced insulin secretion from MING6 insulinoma pancreatic islets and glucagon-like peptide 1 (GLP-1) secretion from HuTu 80 adenocarcinoma cells when used at a concentration of 10 µM. Serum levels of 5(S)-HEPE are elevated in patients with hyperlipidemia.[3]

References

1. Noguchi, N., Yoshida, Y., Kaneda, H., *et al*. Action of ebselen as an antioxidant against lipid peroxidation. *Biochem. Pharmacol.* **44(1)**, 39-44 (1992).
2. Kogure, R., Toyama, K., Kiyamuta, S., *et al*. 5-Hydroxy-eicosapentaenoic acid is an endogenous GPR119 agonist and enhances glucose-dependent insulin secretion. *Biochem. Biophys. Res. Commun.* **416(1-2)**, 58-63 (2011).
3. J.P., S., S., S., G., K., *et al*. Comparison of free serum oxylipin concentrations in hyper- vs. normolipidemic men. Prostaglandins *Leukot. Essent. Fatty Acids* **89(1)**, 19-29 (2013).

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