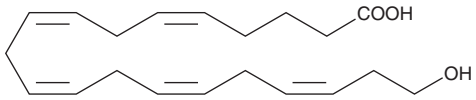
PRODUCT INFORMATION

20-HEPE

Item No. 19322

CAS Registry No.: 116477-57-7
Formal Name: 20-hydroxy-5Z,8Z,11Z,14Z,17Z-eicosapentaenoic acid
MF: $C_{20}H_{30}O_3$
FW: 318.5
Purity: ≥95%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

20-HEPE is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. 20-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 20-HEPE is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 20-HEPE 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

20-HEPE is a metabolite of eicosapentaenoic acid (EPA; Item Nos. 90110 | 21908 | 90110.1) that is formed *via* ω-oxidation of EPA by cytochrome P450 (CYP) ω-oxidases, including human CYP4F3B.[1] It activates peroxisome proliferator-activated receptor α (PPARα) in COS-7 cells expressing a luciferase reporter when used at a concentration of 10 µM. 20-HEPE also activates murine transient receptor potential vanilloid receptor 1 (mTRPV1) *in vitro* but lacks antinociceptive activity in rats.[2]

References

1. Harmon, S.D., Fang, X., Kaduce, T.L., *et al.* Oxygenation of ω-3 fatty acids by human cytochrome P450 4F3B: Effect on 20-hydroxyeicosatetraenoic acid production. *Prostaglandins Leukot. Essent. Fatty Acids* **75(3)**, 169-177 (2006).
2. Hwang, S.H., Wagner, H., Xu, J., *et al.* Chemical synthesis and biological evaluation of ω-hydroxy polyunsaturated fatty acids. *Bioorg. Med. Chem. Lett.* **27(3)**, 620-625 (2017).

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