

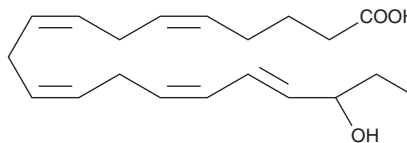
PRODUCT INFORMATION



(±)18-HEPE

Item No. 32840

CAS Registry No.: 141110-17-0
Formal Name: (±)-18-hydroxy-5Z,8Z,11Z,14Z,16E-eicosapentaenoic acid
MF: C₂₀H₃₀O₃
FW: 318.5
Purity: ≥97%
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

(±)18-HEPE is supplied as a solution in ethanol. To change the solvent, simply evaporate the (±)18-HEPE 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.

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 (±)18-HEPE is needed, it can be prepared by evaporating the (±)18-HEPE and directly dissolving the neat oil in aqueous buffers. The solubility of (±)18-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

(±)18-HEPE is produced by non-enzymatic oxidation of eicosapentaenoic acid (EPA; Item Nos. 90110 | 90110.1 | 21908).¹ 18-HEPE levels are increased in the plasma and heart, as well as in the supernatant of cultured peritoneal macrophages isolated from *fat-1* transgenic mice that are capable of endogenously producing ω-3 fatty acids from ω-6 fatty acids.²⁻⁴ It reduces increases in cardiac fibrosis and the expression of *Nppa*, *Col1a1*, *Tgfb1*, *Cx3cl1*, and *Adgre1* induced by transverse aortic constriction in a mouse model of cardiac hypertrophy when administered at doses of 1 and 5 μg.³

References

1. Onodera, T., Fukuhara, A., Shin, J., *et al.* Eicosapentaenoic acid and 5-HEPE enhance macrophage-mediated Treg induction in mice. *Sci. Rep.* **7(1)**, 4560 (2017).
2. Li, J., Chen, C.-Y., Arita, M., *et al.* An omega-3 polyunsaturated fatty acid derivative, 18-HEPE, protects against CXCR4-associated melanoma metastasis. *Carcinogenesis* **39(11)**, 1380-1388 (2018).
3. Endo, J., Sano, M., Isobe, Y., *et al.* 18-HEPE, an n-3 fatty acid metabolite released by macrophages, prevents pressure overload-induced maladaptive cardiac remodeling. *J. Exp. Med.* **211(8)**, 1673-1687 (2014).
4. Kang, J.X. Fat-1 transgenic mice: A new model for omega-3 research. *Prostaglandins Leukot. Essent. Fatty Acids* **77(5-6)**, 263-267 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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