

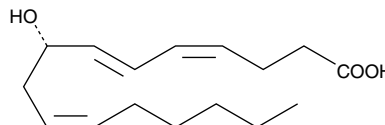
Product Information



tetranor-12(S)-HETE

Item No. 10007207

CAS Registry No.: 121842-79-3
Formal Name: 8S-hydroxy-4Z,6E,10Z-hexadecatrienoic acid
MF: C₁₆H₂₆O₃
FW: 266.4
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis.: λ_{max}: 234 nm



Laboratory Procedures

For long term storage, we suggest that tetranor-12(S)-HETE be stored as supplied at -20°C. It should be stable for at least one year.

tetranor-12(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. The solubility of tetranor-12(S)-HETE in these solvents is at least 25 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 tetranor-12(S)-HETE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of tetranor-12(S)-HETE in PBS (pH 7.2) is at least 0.5 mg/ml. For greater aqueous solubility, tetranor-12(S)-HETE can be directly dissolved in 0.1 M Na₂CO₃ (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.

12(S)-HETE is a product of arachidonic acid metabolism through the 12-lipoxygenase pathway. It is primarily found in platelets, leukocytes, and to a lesser extent in smooth muscle cells.¹ It enhances tumor cell adhesion to endothelial cells, fibronectin, and the subendothelial matrix.² tetranor-12(S)-HETE is the major β-oxidation product resulting from peroxisomal metabolism of 12(S)-HETE in numerous tissues, and Lewis lung carcinoma cells.^{3,4} No biological function has yet been determined for tetranor-12(S)-HETE. Some data indicate it may play a role in controlling the inflammatory response in injured corneas.⁴ In some diseases (*e.g.*, Zellweger's Syndrome) peroxisomal abnormalities result in the inability of cells to metabolize 12(S)-HETE, which may be responsible for symptoms of the disease. The tetranor derivative of 12(S)-HETE is available as a research tool for the elucidation of the metabolic fate of its parent compound.

References

1. Evans, J.F., Leblanc, Y., Fitzsimmons, B.J., *et al.* Activation of leukocyte movement and displacement of [³H] leukotriene B₄ from leukocyte membrane preparations by (12R)- and (12S)-hydroxyeicosatetraenoic acid. *Biochim. Biophys. Acta* **917**, 406-410 (1987).
2. Grossi, I.M., Fitzgerald, L.A., Umbarger, L.A., *et al.* Bidirectional control of membrane expression and/or activation of the tumor cell IRGpIIb/IIIa receptor and tumor cell adhesion by lipoxygenase products of arachidonic acid and linoleic acid. *Cancer Res.* **49**, 1029-1037 (1989).
3. Wigren, J., Herbertsson, H., Tollbom, Ö., *et al.* Metabolism of 12(S)-hydroxy-5,8,10,14-eicosatetraenoic acid by kidney and liver peroxisomes. *J. Lipid Res.* **34**, 625-631 (1993).
4. Hurst, J.S., Bazan, H.P., and Balazy, M. The incorporation and release of 12(S)-hydroxyeicosatetraenoic acid and its major metabolite, 8(S)-hydroxyhexadecatrienoic acid, from rabbit corneal lipids. *Exp. Eye Res.* **59**, 97-106 (1994).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10007207

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

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