

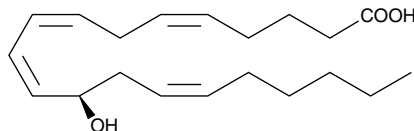
Product Information



12(R)-HETE

Item No. 34560

CAS Registry No.: 82337-46-0
Formal Name: 12R-hydroxy-5Z,8Z,10E,14Z-eicosatetraenoic acid
MF: C₂₀H₃₂O₃
FW: 320.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis.: λ_{max}: 236 nm ε: 27,000



Laboratory Procedures

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

12(R)-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. 12(R)-HETE 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 12(R)-HETE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 12(R)-HETE in PBS (pH 7.2) is approximately 0.8 mg/ml. For greater aqueous solubility, 12(R)-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.

Biosynthesis of 12(R)-HETE in invertebrates is *via* lipoxygenation of arachidonic acid.¹ In mammals, 12(R)-HETE can be produced by 12(R)-LOs and also by cytochrome P450 oxidation.^{2,3} The activity of 12(R)-HETE in mammals is predominantly proinflammatory.² 12(R)-HETE exhibits dose-dependent leukocyte chemotaxis at concentrations as low as 100 nM, and lowers intraocular pressure in rabbits.

References

- Hawkins, D.J. and Brash, A.R. Eggs of the sea urchin, *Strongylocentrotus purpuratus*, contain a prominent (11R) and (12R) lipoxygenase activity. *J. Biol. Chem.* **262**, 7629-7634 (1987).
- Schwartzman, M.L., Balazy, M., Masferrer, J., *et al.* 12(R)-Hydroxyeicosatetraenoic acid: A cytochrome P450-dependent arachidonate metabolite that inhibits Na⁺,K⁺-ATPase in the cornea. *Proc. Natl. Acad. Sci. USA* **84**, 8125-8129 (1987).
- Capdevila, J., Yadagiri, P., Manna, S., *et al.* Absolute configuration of the hydroxyeicosatetraenoic acids (HETEs) formed during catalytic oxygenation of arachidonic acid by microsomal cytochrome P-450. *Biochem. Biophys. Res. Commun.* **141**, 1007-1011 (1986).

Related Products

(±)12-HETE - Item No. 34550 • tetranor-12(R)-HETE - Item No. 34565 • 12(S)-HETE - Item No. 34570 • Arachidonic acid - Item No. 90010 • 12(R)-HETE Lipid Maps MS Standard - Item No. 10007247

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

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com