

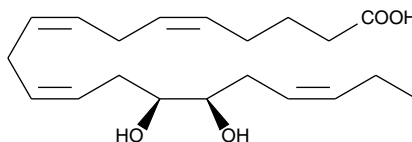
Product Information



(±)14,15-DiHETE

Item No. 10006998

Formal Name: 14,15-dihydroxy-5Z,8Z,11Z,17Z-eicosatetraenoic acid
Synonym: (±)14,15-Dihydroxy-Eicosa-5,8,11,17-Tetraenoic Acid
MF: C₂₀H₃₂O₄
FW: 336.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that (±)14,15-DiHETE be stored as supplied at -20°C. It will be stable for at least two years.

(±)14,15-DiHETE 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 (±)14,15-DiHETE in these solvents is at least 30 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 (±)14,15-DiHETE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of (±)14,15-DiHETE in PBS (pH 7.2) is at least 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Eicosapentaenoic acid (EPA) is an ω-3 fatty acid abundantly available in marine organisms. 14,15-DiHETE is one of the major metabolites produced when EPA is incubated with rat liver microsomes and a rat colitis homogenate.^{1,2} The route of production likely proceeds through cytochrome P450-catalyzed epoxidation at the ω-6 double bond, followed by conversion to the vicinal diols by epoxide hydrolase.³ 14,15-DiHETE is excreted in significant quantities by humans ingesting fish oil supplements.⁴

References

1. Yamane, M., Abe, A., and Yamane, S. High-performance liquid chromatography-thermospray mass spectrometry of epoxy polyunsaturated fatty acids and epoxyhydroxy polyunsaturated fatty acids from an incubation mixture of rat tissue homogenate. *Journal of Chromatography B* **652**, 123-136 (1994).
2. VanRollins, M., Frade, P.D., and Carretero, O.A. Oxidation of 5,8,11,14,17-eicosapentaenoic acid by hepatic and renal microsomes. *Biochim. Biophys. Acta* **996**, 133-149 (1988).
3. VanRollins, M., Baker, R.C., Sprecher, H., et al. Oxidation of docosahexaenoic acid by rat liver microsomes. *J. Biol. Chem.* **259**, 5776-5783 (1984).
4. Knapp, H.R., Miller, A.J., and Lawson, J.A. Urinary excretion of diols derived from eicosapentaenoic acid during N-3 fatty acid ingestion. *Prostaglandins* **42**, 47-53 (1991).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10006998

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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