

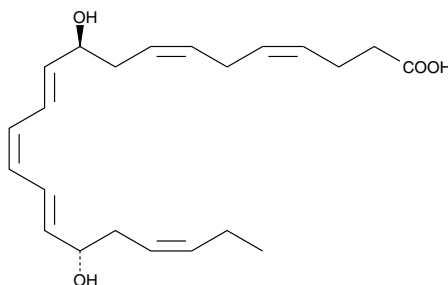
Product Information



10(S),17(S)-DiHDoHE

Item No. 10008128

CAS Registry No.: 871826-47-0
Formal Name: 10(S),17(S)-dihydroxy-4Z,7Z,11E,13Z,15E,19Z-docosahexaenoic acid
Synonyms: PDX, Protectin DX
MF: C₂₂H₃₂O₄
FW: 360.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that 10(S),17(S)-DiHDoHE be stored as supplied at -20°C. It will be stable for at least one year.

10(S),17(S)-DiHDoHE 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. 10(S),17(S)-DiHDoHE 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 10(S),17(S)-DiHDoHE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 10(S),17(S)-DiHDoHE in PBS, pH 7.2, is approximately 0.5 mg/ml. For greater aqueous solubility, 10(S),17(S)-DiHDoHE can be directly dissolved in 0.1 M Na₂CO₃ (solubility of 1 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.

Protectin D1 (also known as neuroprotectin D1 when produced in neuronal tissues) is a DHA-derived dihydroxy fatty acid that exhibits potent protective and anti-inflammatory activities.¹⁻³ 10(S),17(S)-DiHDoHE is a DHA metabolite, also referred to as protectin DX (PDX).⁴ It is produced by an apparent double lipoxygenase (LO)-mediated reaction in murine peritonitis exudates, in suspensions of human leukocytes, or by soybean 15-LO incubated with DHA.^{1,4} It differs from protectin D1 with respect to the stereochemistry of the C-10 hydroxyl and the double bond configuration at the 13 and 15 positions. 10(S),17(S)-DiHDoHE blocks neutrophil infiltration in murine peritonitis by 20-25% at a dose of 1 ng/mouse.¹ It also inhibits platelet activation by both impairing thromboxane (TX) synthesis and TX receptor activation.^{4,5}

References

- Serhan, C.N., Gotlinger, K., Hong, S., *et al.* Anti-inflammatory actions of neuroprotectin D₁/protectin D₁ and its natural stereoisomers: Assignments of dihydroxy-containing docosatrienes. *J. Immunol.* **176**, 1848-1859 (2006).
- Ariel, A. and Serhan, C.N. Resolvins and protectins in the termination program of acute inflammation. *TRENDS in Immunology* **28**(4), 176-183 (2007).
- Schwab, J.M., Chiang, N., Arita, M., *et al.* Resolvin E1 and protectin D1 activate inflammation-resolution programmes. *Nature* **447**, 869-875 (2007).
- Chen, P., Fenet, B., Michaud, S., *et al.* Full characterization of PDX, a neuroprotectin/protectin D1 isomer, which inhibits blood platelet aggregation. *FEBS Lett.* **583**, 3478-84 (2009).
- Chen, P., Véricel, E., Lagarde, M., *et al.* Poxytins, a class of oxygenated products from polyunsaturated fatty acids, potently inhibit blood platelet aggregation. *FASEB J.* **25**, 382-8 (2011).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10008128

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.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any **obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy** located on our website and in our catalog.

Copyright Cayman Chemical Company, 11/30/2011

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