

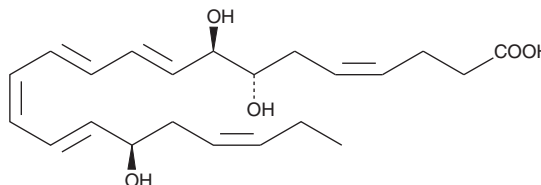
Product Information



17(R)-Resolvin D1

Catalog No. 13060

CAS Registry No.: 528583-91-7
Formal Name: 7S,8R,17R-trihydroxy-4Z,9E,11E,13Z,15E19Z-docosahexaenoic acid
Synonyms: Aspirin-triggered-Resolvin D1, AT-RvD1, 17(R)-RvD1
MF: C₂₂H₃₂O₅
FW: 376.5
Purity: ≥95%
Stability: ≥1 year at -80°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that 17(R)-resolvin D1 be stored as supplied at -80°C. It should be stable for at least one year.

17(R)-Resolvin D1 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 17(R)-resolvin D1 in these solvents is approximately 50 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 17(R)-resolvin D1 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 17(R)-resolvin D1 in PBS, pH 7.2, is approximately 0.05 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Resolvins are a family of potent lipid mediators derived from both eicosapentaenoic acid (EPA) and docosahexaenoic (DHA).¹ In addition to being anti-inflammatory, resolvins promote the resolution of the inflammatory response back to a non-inflamed state.² Resolvin D1 is produced physiologically from the sequential oxygenation of DHA by 15- and 5-lipoxygenase.¹ 17(R)-Resolvin D1 is an aspirin-triggered epimer of resolvin D1 that reduces human polymorphonuclear leukocyte (PMN) transendothelial migration, the earliest event in acute inflammation, with equipotency to resolvin D1 (EC₅₀ ~30 nM).³ 17(R)-Resolvin D1 exhibits a dose-dependent reduction in leukocyte infiltration in a murine model of peritonitis with maximal inhibition of ~35% at a 100 ng dose.³ In contrast to resolvin D1, the aspirin-triggered form resists rapid inactivation by eicosanoid oxidoreductases.

References

- Hong, S., Gronert, K., Devchand, P.R., *et al.* Novel docosatrienes and 17(S)-resolvins generated from docosahexaenoic acid in murine brain, human blood, and glial cells. Autacoids in anti-inflammation. *J. Biol. Chem.* **278**(17), 14677-14687 (2003).
- Ariel, A. and Serhan, C.N. Resolvins and protectins in the termination program of acute inflammation. *TRENDS in Immunology* **28**(4), 176-183 (2007).
- Sun, Y.-P., Oh, S.F., Uddin, J., *et al.* Resolvin D1 and its aspirin-triggered 17R epimer stereochemical assignments, anti-inflammatory properties, and enzymatic inactivation. *J. Biol. Chem.* **282**(13), 9323-9334 (2007).

Related Products

5(S),6(R)-Lipoxin A₄ - Cat. No. 90410 • 5(S),6(R),15(R)-Lipoxin A₄ - Cat. No. 90415 • Resolvin D1 - Cat. No. 10012554

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 under separate cover to the MSDS supervisor at your institution.

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