

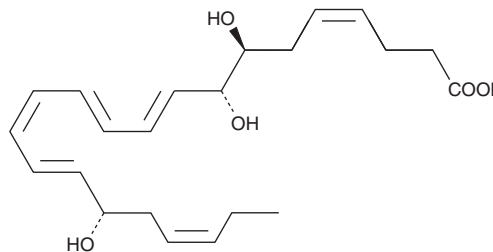
PRODUCT INFORMATION



Resolvin D1

Item No. 10012554

CAS Registry No.: 872993-05-0
Formal Name: 7S,8R,17S-trihydroxy-4Z,9E,11E,13Z,15E,19Z-docosahexaenoic acid
Synonyms: 17(S)-Resolvin D1, RvD1
MF: C₂₂H₃₂O₅
FW: 376.5
Purity: ≥95%
UV/Vis.: λ_{max}: 302 nm
Supplied as: A solution in ethanol
Storage: -80°C
Stability: ≥1 year
Special Conditions: Light sensitive



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Resolvin D1 (RvD1) 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. It is recommended that this product be stored and handled in an ethanol solution. Resolvins can isomerize and degrade when put into freeze thaw conditions and/or in solvents such as dimethyl formamide or DMSO.

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 RvD1 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of RvD1 in PBS, pH 7.2, is approximately 0.05 mg/ml. Aqueous solutions of RvD1 should be discarded immediately after use.

Description

Resolvins are a family of potent lipid mediators derived from both eicosapentaenoic acid (EPA; Item No. 90110) and docosahexaenoic acid (DHA; Item No. 90310).¹ In addition to being anti-inflammatory, resolvins promote the resolution of the inflammatory response back to a non-inflamed state.² RvD1 is produced physiologically from the sequential oxygenation of DHA by 15- and 5-lipoxygenase.¹ A 17(R)-epimer (Item No. 13060) of RvD1 can also be generated in aspirin-treated samples.³ Both RvD1 and its 17(R)-configuration reduce human polymorphonuclear leukocyte (PMNL) transendothelial migration, the earliest event in acute inflammation, with EC₅₀ values of ~30 nM.⁴ RvD1 and its aspirin-triggered form also exhibit a dose-dependent reduction in leukocyte infiltration in a mouse model of peritonitis with a maximal inhibition of ~35% at a 10-100 ng dose.⁴ Analytical and biological comparisons of synthetic RvD1 with endogenously derived RvD1 have confirmed its identity as matching the natural product.⁵

References

1. Hong, S., Gronert, K., Devchand, P.R., *et al.* *J. Biol. Chem.* **278**(17), 14677-14687 (2003).
2. Ariel, A. and Serhan, C.N. *Trends Immunol.* **28**(4), 176-183 (2007).
3. Serhan, C.N., Hong, S., Gronert, K., *et al.* *J. Exp. Med.* **196**(8), 1025-1037 (2002).
4. Sun, Y.-P., Oh, S.F., Uddin, J., *et al.* *J. Biol. Chem.* **282**(13), 9323-9334 (2007).
5. Serhan, C. Personal Communication.

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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