

Product Information



Resolvin D1-d₅

Item No. 11182

Formal Name: 7S,8R,17S-trihydroxy-4Z,9E,11E,13Z,15E,19Z-21,21',22,22,22-d₅ docosahexaenoic acid

Synonyms: 17(S)-Resolvin D1-d₅, RvD1-d₅

MF: C₂₂H₂₇D₅O₅

FW: 381.5

Chemical Purity: ≥95%

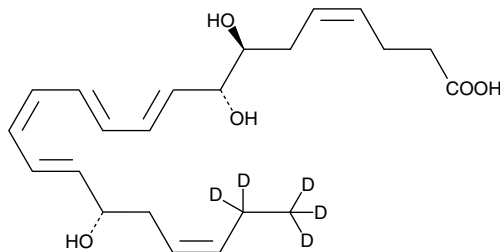
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀

Stability: ≥1 year at -80°C

Supplied as: A solution in ethanol

Special Conditions: Light sensitive

UV/Vis.: λ_{max}: 289, 302, 317 nm



Laboratory Procedures

Resolvin D1-d₅ (RvD1-d₅) contains five deuterium atoms at the 21, 21', 22, 22, and 22 positions. It is intended for use as an internal standard for the quantification of RvD1 (Item No. 10012554) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that RvD1-d₅ be stored as supplied at -80°C. It should be stable for at least one year.

RvD1-d₅ 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. Lipoxins can isomerize and degrade when put into freeze thaw conditions and/or in solvents such as dimethyl formamide or DMSO.

RvD1-d₅ is used as an internal standard for the quantification of RvD1 by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

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 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

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 in Immunology* **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).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11182

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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 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, 07/24/2014

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