

PRODUCT INFORMATION



Resolvin E1-d₄ Item No. 10009854

Formal Name: 5S,12R,18R-trihydroxy-6Z,8E,10E,14Z,16E-eicosapentaenoic-6,7,14,15-d₄ acid

Synonyms: RvE1-d₄, 5S,12R,18R-trihydroxy-EPA-d₄, 5S,12R,18R-trihydroxy-6Z,8E,10E,14Z,16E-EPA-d₄, 5,12,18R-triHEPE-d₄

MF: C₂₀H₂₆D₄O₅

FW: 354.5

Chemical Purity: ≥95% (Resolving E1)

Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀

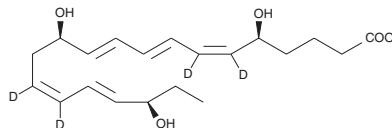
UV/Vis.: λ_{max}: 272 nm

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 E1-d₄ (RvE1-d₄) is intended for use as an internal standard for the quantification of RvE1 (Item No. 10007848) by GC- or LC-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).

RvE1-d₄ 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.

Description

RvE1 is a member of the specialized pro-resolving mediator (SPM) family of bioactive lipids.¹ It is produced from eicosapentaenoic acid (EPA; Item No. 90110 | 90110.1 | 21908) via an 18-HEPE epoxide intermediate, which is formed by aspirin-acetylated COX-2-mediated oxidation of EPA and 5-lipoxygenase (5-LO), by leukotriene A₄ (LTA₄) hydrolase in human polymorphonuclear (PMN) neutrophils. RvE1 activates chemokine-like receptor 1 (CMKLR1; EC₅₀ = 0.137 nM in a reporter assay). RvE1 (20 ng/animal) inhibits increases in inflammatory exudate neutrophil infiltration in a mouse model of peritonitis induced by zymosan A (Item No. 21175). It increases survival and prevents decreases in colon length in a mouse model of TNBS-induced colitis when administered at a dose of 50 µg/kg.² RvE1 (50 µg/kg) inhibits ovalbumin induced increases in eosinophil and total cell numbers, as well as IL-13 and IgE levels in bronchoalveolar lavage fluid (BALF) in an ovalbumin-sensitized mouse model of asthma.³

References

1. Sungwhan, F.O., Pillai, P.S., Recchiuti, A., et al. *J. Clin. Invest.* **121**(2), 569-581 (2011).
2. Arita, M., Yoshida, M., Hong, S., et al. *Proc. Nat. Acad. Sci. USA* **102**(21), 7671-7676 (2005).
3. Aoki, H., Hisada, T., Ishizuka, T., et al. *Biochem. Biophys. Res. Commun.* **367**(2), 509-515 (2008).

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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