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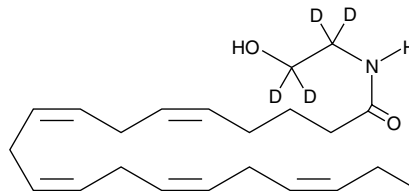
Product Information



Eicosapentaenoyl Ethanolamide-d₄

Item No. 9001835

CAS Registry No.: 946524-41-0
Formal Name: N-(2-hydroxyethyl-1,1',2,2'-d₄)-5Z,8Z,11Z,14Z,17Z-eicosapentaenamide
Synonym: EPEA-d₄
MF: C₂₂H₃₁D₄NO₂
FW: 349.5
Chemical Purity: ≥98% EPEA
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

Eicosapentaenoyl ethanolamide (EPEA)-d₄ contains four deuterium atoms at the 1, 1', 2, and 2' positions. It is intended for use as an internal standard for the quantification of EPEA by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that EPEA-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

EPEA-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. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of EPEA-d₄ in these solvents is approximately 30 mg/ml.

EPEA-d₄ is used as an internal standard for the quantification of EPEA 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).

EPEA is an N-acylethanolamide that inhibits dietary-restriction-induced lifespan extension in wild type and TOR pathway mutant nematodes.¹ Produced endogenously from eicosapentaenoic acid, EPEA serves as a metabolic signal that couples nutrient availability with growth and lifespan. EPEA also has anti-inflammatory properties, suppressing the expression of IL-6 and MCP-1 in 3T3-L1 adipocytes in response to lipopolysaccharide.²

References

1. Lucanic, M., Held, J.M., Vantipalli, M.C., *et al.* N-acylethanolamine signalling mediates the effect of diet on lifespan in *Caenorhabditis elegans*. *Nature* 473(7346), 226-9 (2011).
2. Balvers, M.G., Verhoeckx, K.C., Plastina, P., *et al.* Docosahexaenoic acid and eicosapentaenoic acid are converted by 3T3-L1 adipocytes to N-acyl ethanolamines with anti-inflammatory properties. *Biochim. Biophys. Acta* 1801(10), 1107-1114 (2010).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/9001835

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.

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