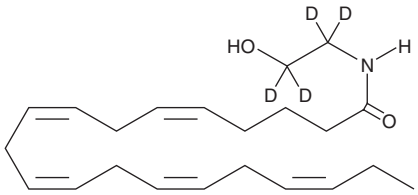
PRODUCT INFORMATION

Eicosapentaenoyl Ethanolamide-d_4

Item No. 9001835

CAS Registry No.: 946524-41-0
Formal Name: N-(2-hydroxyethyl-1,1',2,2'-d_4)-5Z,8Z,11Z,14Z,17Z-eicosapentaenamide
Synonym: EPEA-d_4
MF: $C_{22}H_{31}D_4NO_2$
FW: 349.5
Chemical Purity: ≥98% (EPEA)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Eicosapentaenoyl ethanolamide (EPEA)-d_4 is intended for use as an internal standard for the quantification of EPEA 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).

EPEA-d_4 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-d_4 in these solvents is approximately 30 mg/ml.

Description

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).

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