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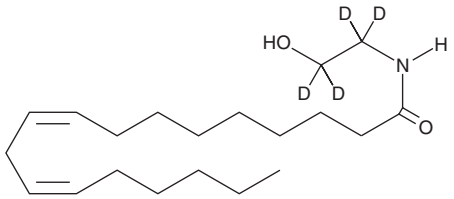
PRODUCT INFORMATION

Linoleoyl Ethanolamide-d_4

Item No. 9000553

CAS Registry No.: 1451194-69-6
Formal Name: N-(2-hydroxyethyl-1,1,2,2-d_4)-9Z,12Z-octadecadienamide
MF: $C_{20}H_{33}D_4NO_2$
FW: 327.5
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

Linoleoyl ethanolamide-d_4 is intended for use as an internal standard for the quantification of linoleoyl ethanolamide (Item No. 90155) 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).

Linoleoyl ethanolamide-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 DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of linoleoyl ethanolamide-d_4 in either of these solvents is approximately 25 mg/ml.

Description

Linoleoyl ethanolamide is an endocannabinoid detected in porcine brain and murine peritoneal macrophages which contains linoleate in place of the arachidonate moiety of arachidonoyl ethanolamide (AEA).[1,2] It has weak affinity for the central cannabinoid (CB_1) and peripheral cannabinoid (CB_2) receptors, exhibiting K_i values of 10 µM and 25 µM, respectively.[3] However, it is only approximately 4-fold less potent than AEA at causing catalepsy in mice (ED_{50} of 26.5 mg/kg).[4] In addition, linoleoyl ethanolamide increases ERK phosphorylation and AP-1-dependent transcription approximately 1.5-fold at 15 µM in a CB-receptor-independent manner.[5] However, cellular toxicity is readily apparent at concentrations of 10-20 µM. Linoleoyl ethanolamide inhibits human fatty acid amide hydrolase-dependent hydrolysis of AEA with a K_i value of 9.0 µM, but also is hydrolyzed effectively by the enzyme.[6,7]

References

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