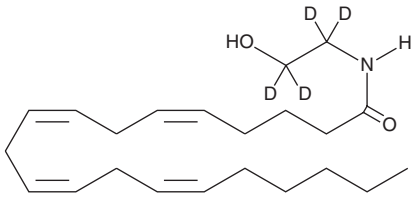
PRODUCT INFORMATION

Arachidonoyl Ethanolamide-d_4

Item No. 10011178

CAS Registry No.: 946524-40-9
Formal Name: N-(2-hydroxyethyl-1,1,2,2-d4)-5Z,8Z,11Z,14Z-eicosatetraenamide
Synonyms: AEA-d_4, Anandamide-d_4
MF: $C_{22}H_{33}D_4NO_2$
FW: 351.6
Chemical Purity: ≥98% (Arachidonoyl ethanolamide)
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

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

AEA-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 AEA-d_4 in these solvents is approximately 3 and 2 mg/ml, respectively.

Description

AEA is the ethanolamine amide of arachidonic acid, first isolated from porcine brain.[1] It is an endogenous cannabinoid neurotransmitter that binds to both central cannabinoid (CB_1) and peripheral cannabinoid (CB_2) receptors and mimics the pharmacologic effects of Δ^9-THC.[2] AEA inhibits the specific binding of [^{3}H]-HU-243 to synaptosomal membranes with a K_i value of 52 nM, compared to 46 nM for Δ^9-THC.[1]

References

1. Devane, W.A., Hanus, L., Breuer, A., *et al.* Isolation and structure of a brain constituent that binds to the cannabinoid receptor. *Science* **258(5090)**, 1946-1949 (1992).
2. Felder, C.C., Briley, E.M., Axelrod, J., *et al.* Anandamide, an endogenous cannabimimetic eicosanoid, binds to the cloned human cannabinoid receptor and stimulates receptor-mediated signal transduction. *Proc. Natl. Acad. Sci. USA* **90(16)**, 7656-7660 (1993).

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