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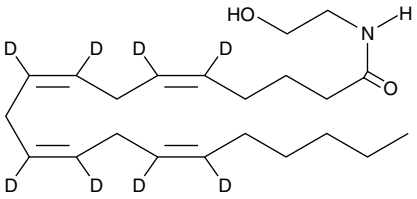
Product Information

Arachidonoyl Ethanolamide-d_8

Item No. 390050

CAS Registry No.:	924894-98-4
Formal Name:	N-(2-hydroxyethyl)-5Z,8Z,11Z,14Z-eicosatetraenamide-5,6,8,9,11,12,14,15-d_8
Synonyms:	AEA-d_8, Anandamide-d_8
MF:	$C_{22}H_{29}D_8NO_2$
FW:	355.6
Chemical Purity:	≥95% Arachidonoyl Ethanolamide
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_8); ≤1% d_0
Stability:	≥1 year at -20°C
Supplied as:	A solution in methyl acetate



Laboratory Procedures

Arachidonoyl ethanolamide-d_8 (AEA-d_8) contains eight deuterium atoms at the 5, 6, 8, 9, 11, 12, 14, and 15 positions. It is intended for use as an internal standard for the quantification of AEA by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that AEA-d_8 be stored as supplied at -20°C. It will be stable for at least one year.

AEA-d_8 is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate 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 AEA-d_8 in these solvents is approximately 10 mg/ml.

AEA-d_8 is used as an internal standard for the quantification of AEA 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).

AEA is the ethanolamine amide of arachidonic acid, first isolated from porcine brain.[1] It is an endogenous cannabinoid neurotransmitter that binds to both CB_1 and CB_2 receptors.[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**, 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**, 7656-7660 (1993).

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