

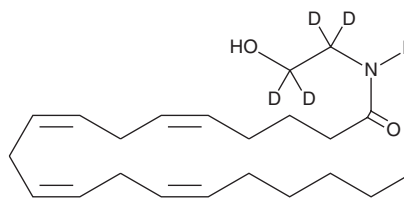
# PRODUCT INFORMATION



## Arachidonoyl Ethanolamide-d<sub>4</sub>

Item No. 10011178

**CAS Registry No.:** 946524-40-9  
**Formal Name:** N-(2-hydroxyethyl-1,1,2,2-d<sub>4</sub>)-5Z,8Z,11Z,14Z-eicosatetraenamide  
**Synonyms:** AEA-d<sub>4</sub>, Anandamide-d<sub>4</sub>  
**MF:** C<sub>22</sub>H<sub>33</sub>D<sub>4</sub>NO<sub>2</sub>  
**FW:** 351.6  
**Chemical Purity:** ≥98% (Arachidonoyl ethanolamide)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**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<sub>4</sub> (AEA-d<sub>4</sub>) 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<sub>4</sub> 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<sub>4</sub> 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.<sup>1</sup> It is an endogenous cannabinoid neurotransmitter that binds to both central cannabinoid (CB<sub>1</sub>) and peripheral cannabinoid (CB<sub>2</sub>) receptors and mimics the pharmacologic effects of Δ<sup>9</sup>-THC.<sup>2</sup> AEA inhibits the specific binding of [<sup>3</sup>H]-HU-243 to synaptosomal membranes with a K<sub>i</sub> value of 52 nM, compared to 46 nM for Δ<sup>9</sup>-THC.<sup>1</sup>

### 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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