

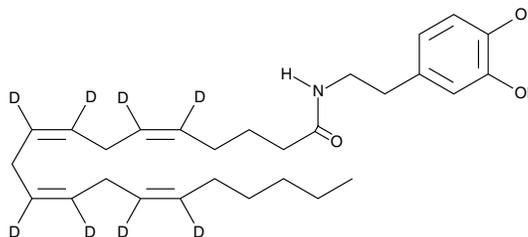
Product Information



N-Arachidonoyl Dopamine-d₈

Item No. 10007431

CAS Registry No.: 1159908-42-5
Formal Name: N-[2-(3,4-dihydroxyphenyl)ethyl]-5Z,8Z,11Z,14Z-eicosatetraenamide-5,6,8,9,11,12,14,15-d₈
Synonym: NADA-d₈
MF: C₂₈H₃₃D₈NO₃
FW: 447.6
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₈); ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis.: λ_{max}: 205, 283 nm



Laboratory Procedures

N-Arachidonoyl dopamine-d₈ (NADA-d₈) 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 NADA by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that NADA-d₈ be stored as supplied at -20°C. It should be stable for at least one year.

NADA-d₈ 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. NADA-d₈ is miscible in these solvents.

NADA-d₈ is used as an internal standard for the quantification of NADA 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).

Several different arachidonoyl amino acids, including NADA, have been isolated and characterized from bovine brain.¹ NADA is the amide of the neurotransmitter dopamine and arachidonic acid. NADA is a CB₁-selective cannabinoid agonist, inducing the typical tetrad of hypothermia, analgesia, catalepsy, and hypomotility in rats which exceeds that of anandamide (AEA).² NADA is a full agonist at the vanilloid receptor 1, but is inactive on the dopaminergic D1 and D2 receptors. NADA is also a potent inhibitor (IC₅₀ = 0.25 μM) of the proliferation of MCF-7 breast carcinoma cells. Recent reports of NADA's endothelium-dependent vasodilation indicate that some of its cannabinergic activities antagonized by SR141716A may be non-CB₁/CB₂ dependent.³

References

1. Huang, S.M., Bisogno, T., Petros, T.J., *et al.* Identification of a new class of molecules, the arachidonoyl amino acids, and characterization of one member that inhibits pain. *J. Biol. Chem.* **276**(46), 42639-42644 (2001).
2. Bezuglov, V., Bobrov, M., Gretskaya, N., *et al.* Synthesis and biological evaluation of novel amides of polyunsaturated fatty acids with dopamine. *Bioorg. Medicinal Chem. Letters* **11**, 447-449 (2001).
3. Randall, M. and Maxey, K.M. Personal Communication.

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10007431

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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