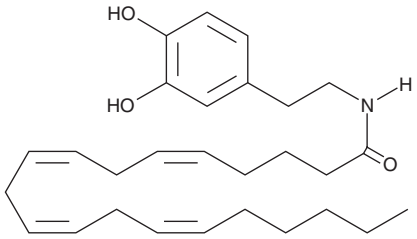
PRODUCT INFORMATION

N-Arachidonoyl Dopamine

Item No. 90057

CAS Registry No.:	199875-69-9
Formal Name:	N-[2-(3,4-dihydroxyphenyl)ethyl]-5Z,8Z,11Z,14Z-eicosatetraenamide
Synonym:	NADA
MF:	$C_{28}H_{41}NO_3$
FW:	439.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 211, 284 nm
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

N-Arachidonoyl dopamine 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. N-Arachidonoyl dopamine is miscible in these solvents.

N-Arachidonoyl dopamine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of N-arachidonoyl dopamine should be diluted with the aqueous buffer of choice. N-Arachidonoyl dopamine has a solubility of approximately 100 µg/ml (colloidal suspension) in a 1:1 solution of ethanol:PBS (pH 7.2) using this method.

Description

N-Arachidonoyl dopamine (NADA) is an arachidonoyl amino acid and cannabinoid (CB) receptor 1 agonist (K_i = 250 nM in rat brain membranes, which highly express CB_1 receptors).[1] It is selective for CB_1 over CB_2 receptors (K_i = 12,000 nM in rat spleen membranes, which highly express CB_2 receptors). NADA induces intracellular calcium mobilization in N18TG2 neuroblastoma cells (EC_{50} = 0.7 µM). It inhibits the proliferation of MCF-7 breast cancer cells (IC_{50} = 0.25 µM), an effect that can be reversed by the CB_1 receptor antagonist SR141716A (rimonabant; Item No. 9000484). NADA (10 mg/kg) induces hypothermia, catalepsy, hypolocomotion, and analgesia in mice.

Reference

1. Bisogno, T., Melck, D., Bobrov, M.Y., *et al.* *N*-acyl-dopamines: Novel synthetic CB_1 cannabinoid-receptor ligands and inhibitors of anandamide inactivation with cannabimimetic activity *in vitro* and *in vivo*. *Biochem. J.* **351(Pt 3)**, 817-824 (2001).

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