

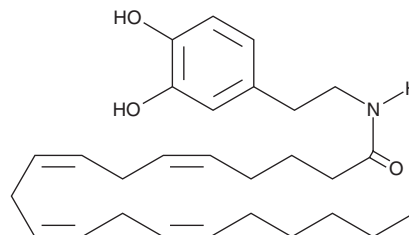
# PRODUCT INFORMATION



## 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<sub>28</sub>H<sub>41</sub>NO<sub>3</sub>  
**FW:** 439.6  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 211, 284 nm  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥1 year



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<sub>1</sub> receptors).<sup>1</sup> It is selective for CB<sub>1</sub> over CB<sub>2</sub> receptors ( $K_i = >12,000$  nM in rat spleen membranes, which highly express CB<sub>2</sub> 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<sub>1</sub> 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<sub>1</sub> cannabinoid-receptor ligands and inhibitors of anandamide inactivation with cannabimimetic activity *in vitro* and *in vivo*. *Biochem. J.* **351**(Pt 3), 817-824 (2001).

#### 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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