

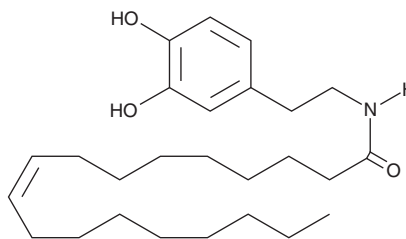
Product Information



N-Oleoyl Dopamine

Item No. 10115

CAS Registry No.: 105955-11-1
Formal Name: N-[2-(3,4-dihydroxyphenyl)ethyl]-9Z-octadecenamide
Synonym: ODA
MF: C₂₆H₄₃NO₃
FW: 417.6
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis.: λ_{max}: 220, 283 nm



Laboratory Procedures

For long term storage, we suggest that N-oleoyl dopamine (ODA) be stored as supplied at -20°C. It should be stable for at least one year.

ODA 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 ODA in these solvents is approximately 20 mg/ml.

ODA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of ODA should be diluted with the aqueous buffer of choice. ODA has a solubility of approximately 500 µg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

ODA is a selective, endogenous vanilloid receptor 1 (VR₁) agonist isolated from bovine brain.¹ Structurally, it is the amide of oleic acid and dopamine and is therefore a “hybrid” analog which incorporates components of both the anadamide-like and dopamine neurotransmitter pathways. ODA binds to the human recombinant VR₁ with a K_i of 36 nM making it equipotent to capsaicin and slightly more potent than N-arachidonoyl dopamine in this assay.¹ It causes hyperalgesia and nocifensive behavior that is blocked by the VR₁ antagonist iodo-resiniferatoxin. ODA is selective for VR₁ based on observations that it has weak affinity for the rat CB₁ receptor (K_i of 1.6 µM) and is a very weak inhibitor of FAAH. ODA is also a potent inhibitor of 5-lipoxygenase from rat basophilic leukemia-1 (RBL-1) cells, with a IC₅₀ of 7.5 nM.^{2,3}

References

1. Chu, C.J., Huang, S.M., De Petrocellis, L., *et al.* N-oleoyldopamine, a novel endogenous capsaicin-like lipid that produces hyperalgesia. *J. Biol. Chem.* **278(16)**, 13633-13639 (2003).
2. Tseng, C.-F., Iwakami, S., Mikajiri, A., *et al.* Inhibition of *in vitro* prostaglandin and leukotriene biosyntheses by cinnamoyl-β-phenethylamine and N-acyldopamine derivatives. *Chem. Pharm. Bull.* **40(2)**, 396-400 (1992).
3. Iwakami, S., Shibuya, M., Tseng, C.-F., *et al.* Inhibition of arachidonate 5-lipoxygenase by phenolic compounds. *Chem. Pharm. Bull.* **34**, 3960-3963 (1986).

Related Products

Arachidonoyl Serotonin - Item No. 70665 • CAY10400 - Item No. 71650 • Arvanil - Item No. 90052 • Arachidonoyl Dopamine - Item No. 90057 • Oleic Acid - Item No. 90260 • Oleoyl Ethanolamide - Item No. 90265 • Dihydrocapsaicin - Item No. 92355

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