

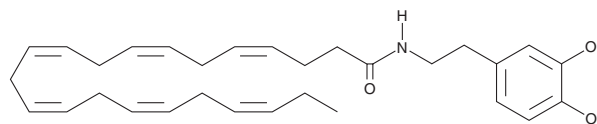
PRODUCT INFORMATION



N-Docosahexaenoyl Dopamine

Item No. 9001394

CAS Registry No.: 129024-87-9
Formal Name: N-[2-(3,4-dihydroxyphenyl)ethyl]-
4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenamide
Synonyms: DHA-DA, NMI 8739
MF: C₃₀H₄₁NO₃
FW: 463.7
Purity: ≥95%
UV/Vis.: λ_{max}: 282 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-Docosahexaenoyl dopamine (DHA-DA) 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. DHA-DA is miscible in these solvents.

DHA-DA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of DHA-DA should be diluted with the aqueous buffer of choice. DHA-DA has a solubility of approximately 0.1 mg/ml as a colloidal suspension 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.

Description

DHA-DA is an amine conjugate of the neurotransmitter dopamine and the polyunsaturated fatty acid docosahexaenoic acid (DHA; Item No. 90310). DHA-DA is actively transported into the brain following intraperitoneal injections in mice, resulting in reduced general locomotor activity of 35-40% at a dose of 5 mg/kg.¹ It is theorized that the DHA portion of the molecule serves as a carrier for DA through the blood-brain barrier via a DHA-mediated transport system.¹ DHA-DA exhibits immune-modulating, anti-inflammatory activity in the range of 0.1-2.5 μM, suppressing the production of nitric oxide, IL-6, CCL20, MCP-1, and PGE₂ (Item No. 14010) in LPS-stimulated macrophages and microglial cells without affecting NF-κB activity.²

References

1. Shashoua, V.E. and Hesse, G.W. N-Docosahexaenoyl, 3-hydroxytyramine: A dopaminergic compound that penetrates the blood-brain barrier and suppresses appetite. *Life Sciences* **58(16)**, 1347-1357 (1996).
2. Wang, Y., Plastina, P., Vincken, J.-P., et al. N-docosahexaenoyl dopamine, an endocannabinoid-like conjugate of dopamine and the n-3 fatty acid docosahexaenoic acid, attenuates lipopolysaccharide-induced activation of microglia and macrophages via COX-2. *ACS Chem. Neurosci.* (2016).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM