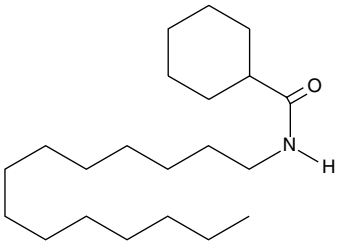
Product Information

N-Cyclohexanecarbonyltetradecylamine

Item No. 10008317

CAS Registry No.:	1215071-05-8
Formal Name:	N-tetradecyl-cyclohexanecarboxamide
MF:	$C_{21}H_{41}NO$
FW:	323.6
Purity:	≥98%
Stability:	≥1 year at -20°C
Supplied as:	A crystalline solid



Laboratory Procedures

For long term storage, we suggest that N-cyclohexanecarbonyltetradecylamine be stored as supplied at -20°C. It will be stable for at least one year.

N-Cyclohexanecarbonyltetradecylamine is supplied as a crystalline solid. A stock solution may be made by dissolving the N-cyclohexanecarbonyltetradecylamine in an organic solvent purged with an inert gas. N-cyclohexanecarbonyltetradecylamine is soluble in ethanol. The solubility of N-cyclohexanecarbonyltetradecylamine in this solvent is approximately 2 mg/ml.

N-cyclohexanecarbonyltetradecylamine is sparingly soluble in aqueous buffers. If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Numerous analogs of fatty acyl ethanolamides potentiate the intrinsic biological activity of endocannabinoids.[1] This potentiation is ascribed either to inhibition of AEA reuptake into neurons, or inhibition of fatty acid amide hydrolase (FAAH) within the neurons.[2] However, *Ueda, et al.* has recently cloned another amidase, the acidic PEAase that promotes the hydrolysis of palmitoylethanolamide.[3] N-Cyclohexanecarbonyltetradecylamine is an analog of N-cyclohexanecarbonylpentadecylamine, a selective inhibitor of acidic PEAase with an IC_{50} value of 4.5 µM, that contains one less carbon in the alkyl chain.[4] The biological activity of N-cyclohexanecarbonyltetradecylamine has not been documented.

References

1. Khanolkar, A.D. and Makriyannis, A. Structure-activity relationships of anandamide, an endogenous cannabinoid ligand. *Life Sci.* **65**, 607-616 (1999).
2. Deutsch, D.G., Glaser, S.T., Howell, J.M., *et al.* The cellular uptake of anandamide is coupled to its breakdown by fatty-acid amide hydrolase. *J. Biol. Chem.* **276(10)**, 6967-6973 (2001).
3. Ueda, N., Yamanaka, K., and Yamamoto, S. Purification and characterization of an acid amidase selective for N-palmitoylethanolamine, a putative endogenous anti-inflammatory substance. *J. Biol. Chem.* **276(38)**, 35552-35557 (2001).
4. Tsuboi, K., Hilligsmann, C., Vandevoorde, S., *et al.* N-cyclohexanecarbonylpentadecylamine: A selective inhibitor of the acid amidase hydrolysing N-acylethanolamines, as a tool to distinguish acid amidase from fatty acid amide hydrolase. *Biochem J.* **379**, 99-106 (2004).

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