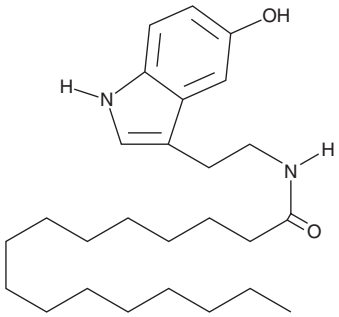
PRODUCT INFORMATION

Palmitoyl Serotonin

Item No. 9000630



CAS Registry No.:	212707-51-2
Formal Name:	N-[2-(5-hydroxy-1H-indol-3-yl)ethyl]-hexadecanamide
MF:	$C_{26}H_{42}N_2O_2$
FW:	414.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 223, 278 nm
Supplied as:	A neat solid
Storage:	-20°C
Stability:	≥1 year

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Palmitoyl serotonin is supplied as a neat solid. A stock solution may be made by dissolving the palmitoyl serotonin in the solvent of choice. Palmitoyl serotonin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of palmitoyl serotonin in ethanol and DMF is approximately 30 mg/ml and approximately 15 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of palmitoyl serotonin can be prepared by directly dissolving the neat solid in aqueous buffers. The solubility of palmitoyl serotonin in PBS, pH 7.2, is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Palmitoyl serotonin is a hybrid molecule patterned after arachidonoyl serotonin (Catalog No. 70665). Arachidonoyl serotonin is a dual antagonist of fatty acid amide hydrolase (FAAH) and the transient receptor potential vanilloid 1 (TRPV1) channel, reducing both acute and chronic peripheral pain.[1,2] The effects of replacing the arachidonoyl portion with the saturated 16-carbon palmitoyl moiety have not been studied. However, replacement of arachidonate with saturated 11- or 12-carbon fatty acids produces compounds that potently inhibit capsaicin-induced TRPV1 channel activation (IC_{50} = 0.76 µM) without blocking FAAH-mediated hydrolysis of arachidonoyl ethanolamine (IC_{50} > 50 µM).[1]

References

1. Ortar, G., Cascio, M.G., De Petrocellis, L., *et al.* New N-arachidonoylserotonin analogues with potential "dual" mechanism of action against pain. *J. Med. Chem.* **50**, 6554-6569 (2007).
2. Maione, S., De Petrocellis, L., de Novellis, V., *et al.* Analgesic actions of N-arachidonoyl-serotonin, a fatty acid amide hydrolase inhibitor with antagonistic activity at vanilloid TRPV1 receptors. *Br. J. Pharmacol.* **150**, 766-781 (2007).

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