Product Data Sheet

Product Name: Stearoyl Serotonin
Cat. No.: GC15580

Chemical Properties

Cas. No.	67964-87-8		
Chemical Name	N-[2-(5-hydroxy-1H-indol-3-yl)ethyl]-octadecanamide		
SMILES	O=C(NCCC1=CNC2=CC=C(O)C=C12)CCCCCCCCCCCCCCCCC		
Formula	$C_{28}H_{46}N_2O_2$	M.Wt	442.7
Solubility	≤2.5mg/ml in ethanol;20mg/ml in DMSO;20mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Stearoyl Serotonin		

Background

Stearoyl Serotonin is a TRPV1 antagonist with IC50 value of 0.76 μM for human TRPV1 [1].

The transient receptor potential vanilloid-type 1 (TRPV1) channel is a nonselective cation channel that may be activated by a variety of exogenous and endogenous physical and chemical stimuli. TRPV1 is decreased in the injured nerve fibers but increased in those proximal to the site damage. TRPV1 is a potential new target for the development of analgesic and anti-inflammatory drugs [1].

Stearoyl Serotonin is a hybrid molecule patterned after arachidonoyl serotonin. Arachidonoyl serotonin is a dual antagonist of TRPV1 and fatty acid amide hydrolase (FAAH) with IC50 values of 0.27 and 8 μM, respectively. Arachidonoyl serotonin was highly effective against both acute and chronic peripheral pain [1][2]. In TRPV1 and FAAH assays, Stearoyl Serotonin inhibited anandamide hydrolysis mediated by FAAH and

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capsaicin-induced intracellular Ca2+ elevation in HEK293 cells overexpressing the human recombinant TRPV1 receptor with IC50 values of > 50 μM and 0.76 μM, respectively. However, the effects of replacing the arachidonoyl portion with the saturated 18-carbon stearoyl moiety had not been studied [1].

References:

[1]. Ortar G, Cascio MG, De Petrocellis L, et al. New N-arachidonoylserotonin analogues with potential "dual" mechanism of action against pain. J Med Chem. 2007 Dec 27;50(26):6554-69.

[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. 2007 Mar;150(6):766-81.