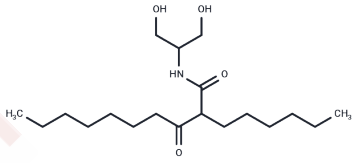
Data Sheet (Cat.No.T27710)

TargetMol

K6PC-5

Chemical Properties



CAS No. : 756875-51-1

Formula: C19H37NO4

Molecular Weight: 343.5

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	K6PC-5 is a ceramide derivative that acts as an activator of sphingosine kinase 1 (SPHK1), inducing a swift and temporary rise in intracellular calcium levels. With its potential applications in skin diseases associated with abnormal keratinocyte function, as well as in studies on neurodegeneration and virus infection, K6PC-5 presents a promising compound for research purposes.
Targets(IC50)	S1P Receptor,Virus Protease
In vitro	K6PC-5 (1-10 μM; 24 h) increases involucrin and loricrin levels in a dose-dependent manner in normal human epidermal keratinocytes (NHEKs), promotes differentiation and proliferation of keratinocytes via intracellular Ca2+ signaling, and stimulates the phosphorylation of p42/44 extracellular signal-regulated kinase and c-Jun N-terminal kinase[1]. K6PC-5 (1-10 μM; 24 h) also promotes fibroblast proliferation and collagen synthesis in human fibroblasts, inducing intracellular Ca2+ concentration ([Ca2+]i) oscillations[2]. Additionally, K6PC-5 (10, 25, and 50 μM; 48 h) significantly attenuates EBOV infection in EBOV-infected EA.hy926 cells, reduces virus titers in cell supernatants, and decreases VP40 levels in a concentration-dependent manner[3].
In vivo	In intrinsically aged hairless mice (56 weeks old), topical application of 1% K6PC-5 for 2 weeks significantly increased the number of dermal fibroblasts and collagen production, resulting in a notable increase in dermal thickness[2].

Solubility Information

Solubility	DMSO: 49 mg/mL (142.65 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (9.61 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9112 mL	14.556 mL	29.1121 mL
5 mM	0.5822 mL	2.9112 mL	5.8224 mL
10 mM	0.2911 mL	1.4556 mL	2.9112 mL
50 mM	0.0582 mL	0.2911 mL	0.5822 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kwon YB, et al. Novel synthetic ceramide derivatives increase intracellular calcium levels and promote epidermal keratinocyte differentiation. J Lipid Res. 2007 Sep;48(9):1936-43.
Jong-Kyung Youm, et al. K6PC-5, a sphingosine kinase activator, induces anti-aging effects in intrinsically aged skin through intracellular Ca2+ signaling. J Dermatol Sci. 2008 Aug;51(2):89-102.
Imre G, et al. The sphingosine kinase 1 activator, K6PC-5, attenuates Ebola virus infection. iScience. 2021 Mar 5;24 (4):102266.
Bernacchioni C, et al. The sphingosine kinase activator K6PC-5 stimulates C2C12 myoblast differentiation. Int J Immunopathol Pharmacol. 2011 Jan-Mar;24(1):55-62.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481