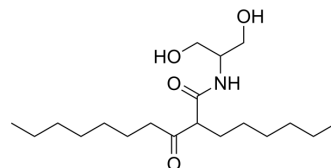


K6PC-5

Cat. No.:	HY-124042		
CAS No.:	756875-51-1		
Molecular Formula:	C ₁₉ H ₃₇ NO ₄		
Molecular Weight:	343.5		
Target:	SphK; Filovirus		
Pathway:	Immunology/Inflammation; Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (291.12 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		2.9112 mL	14.5560 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	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (7.28 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (7.28 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (7.28 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	K6PC-5, a ceramide derivative, is a sphingosine kinase 1 (SPHK1) activator and elicits a rapid transient increase in intracellular calcium levels. K6PC-5 has the potential for skin diseases involving abnormal keratinocyte, and neurodegeneration and virus infection research ^{[1][2][3]} .
IC₅₀ & Target	SphK1
In Vitro	K6PC-5 (1-10 μM; 24 h) increases the involucrin and loricrin levels in a dose-dependent manner in normal human epidermal

keratinocytes (NHEKs). K6PC-5 promotes differentiation and proliferation of keratinocytes via intracellular Ca²⁺ signaling. In addition, K6PC-5 stimulates the phosphorylation of p42/44 extracellular signal-regulated kinase and c-Jun N-terminal kinase^[1].

K6PC-5 (1-10 μM; 24 h) promotes fibroblasts proliferation and collagen synthesis in human fibroblasts. K6PC-5 induces intracellular Ca²⁺ concentration ([Ca²⁺]_i) oscillations in human fibroblasts^[2].

K6PC-5 (10, 25, and 50 μM; 48 h) significantly attenuates EBOV-induced infection in EBOV-infected EA.hy926 cells. K6PC-5 significantly reduces the virus titers in supernatants of infected cells and strikingly decreased the amount of VP40 in a concentration-dependent manner^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis^[1]

Cell Line:	Normal human epidermal keratinocytes (NHEKs)
Concentration:	1 μM, 5 μM, 10 μM
Incubation Time:	24 h
Result:	Increased the involucrin and loricrin levels in a dose-dependent manner.

Cell Proliferation Assay^[2]

Cell Line:	Human fibroblasts
Concentration:	1 μM, 5 μM, 10 μM
Incubation Time:	24 h
Result:	Promoted fibroblast proliferation and procollagen production in human fibroblasts significantly.

In Vivo

In intrinsically aged hairless mice (56 weeks old), 1% K6PC-5 is applied topically for 2 weeks. This K6PC-5 treatment significantly increases both the number of dermal fibroblasts and collagen production. As a consequence, dermal thickness also increased significantly^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Intrinsically aged hairless mice (56 weeks old) ^[2]
Dosage:	1% (vehicle (PEG:EtOH = 7:3))
Administration:	Topical application; twice daily for 2 weeks
Result:	Enhanced fibroblast proliferation, collagen production, and eventually increased dermal thickness.

REFERENCES

[1]. 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.

[2]. 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.

[3]. Imre G, et al. The sphingosine kinase 1 activator, K6PC-5, attenuates Ebola virus infection. *iScience.* 2021 Mar 5;24(4):102266.

Caution: Product has not been fully validated for medical applications. For research use only.

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