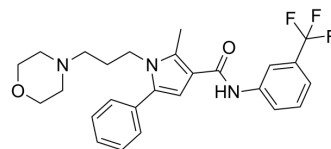


HC-067047

Cat. No.:	HY-100208		
CAS No.:	883031-03-6		
Molecular Formula:	C ₂₆ H ₂₈ F ₃ N ₃ O ₂		
Molecular Weight:	471.51		
Target:	TRP Channel		
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (106.04 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		2.1208 mL	10.6042 mL	21.2085 mL
		5 mM		0.4242 mL	2.1208 mL	4.2417 mL
10 mM			0.2121 mL	1.0604 mL	2.1208 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 (5.30 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.30 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.30 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	HC-067047 is a potent and selective TRPV4 antagonist and reversibly inhibits currents through the human, rat, and mouse TRPV4 orthologs with IC ₅₀ values of 48 nM, 133 nM, and 17 nM, respectively ^[1] .
IC₅₀ & Target	IC ₅₀ : 48 nM (human TRPV4), 133 nM (rat TRPV4), 17 nM (mouse TRPV4) ^[1]
In Vitro	HC-067047 (1 μM; 24 hours; HEI-OC1 cells) treatment significantly decreases mRNA expression in high glucose cultured HEI-OC1 cells ^[2] .

?HC-067047 (1 μ M; 24 hours; HEI-OC1 cells) treatment significantly decreases the expression of TRPV4 protein^[2].

?HC-067047 (1 μ M; 48 hours; HEI-OC1 cells) treatment inhibits cell proliferation^[2].

?HC-067047 (1 μ M; 48 hours; HEI-OC1 cells) treatment promotes cell apoptosis^[2].

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

RT-PCR^[2]

Cell Line:	HEI-OC1 cells
Concentration:	1 μ M
Incubation Time:	24 hours
Result:	The mRNA expression was significantly decreased.

Western Blot Analysis^[2]

Cell Line:	HEI-OC1 cells
Concentration:	1 μ M
Incubation Time:	24 hours
Result:	The expression of TRPV4 protein was significantly decreased.

Cell Proliferation Assay^[2]

Cell Line:	HEI-OC1 cells
Concentration:	1 μ M
Incubation Time:	48 hours
Result:	Inhibited cell proliferation.

Apoptosis Analysis^[2]

Cell Line:	HEI-OC1 cells
Concentration:	1 μ M
Incubation Time:	48 hours
Result:	Promoted cell apoptosis.

In Vivo

HC-067047 (0-50 mg/kg; intraperitoneal injection; for 30 minutes; cyclophosphamide-treated WT and Trpv4^{+/?} mice, and naive WT mice) treatment increases functional bladder capacity and reduces micturition frequency in WT mice with cystitis.

HC-067047 do not affect bladder function in Trpv4^{+/?} mice^[1].

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

Animal Model:	Cyclophosphamide-treated WT and Trpv4 ^{-/-} mice, and naive WT mice ^[1]
Dosage:	0 mg/kg, 1 mg/kg, 10 mg/kg, 50 mg/kg
Administration:	Intraperitoneal injection; for 30 minutes
Result:	Increased functional bladder capacity and reduces micturition frequency in WT mice with cystitis and did not affect bladder function in Trpv4 ^{-/-} mice.

CUSTOMER VALIDATION

- Cell Death Dis. 2023 Jun 28;14(6):379.
- Environ Pollut. 2020 Jan;256:113375.
- Acta Pharmacol Sin. 2022 Sep 23.
- Transl Res. 2023 Nov 4:S1931-5244(23)00181-0.
- Biomed Pharmacother. 2020 Feb;122:109697.

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REFERENCES

[1]. Everaerts W et al. Inhibition of the cation channel TRPV4 improves bladder function in mice and rats with cyclophosphamide-induced cystitis. Proc Natl Acad Sci U S A. 2010 Nov 2;107(44):19084-9.

[2]. Xing Y, et al. Decreased Expression of TRPV4 Channels in HEI-OC1 Cells Induced by High Glucose Is Associated with Hearing Impairment. Yonsei Med J. 2018 Nov;59(9):1131-1137.

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

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