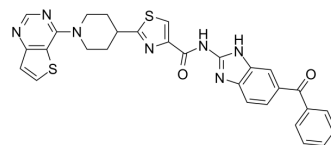


SC75741

Cat. No.:	HY-10496		
CAS No.:	913822-46-5		
Molecular Formula:	C ₂₉ H ₂₃ N ₇ O ₂ S ₂		
Molecular Weight:	565.67		
Target:	NF-κB; Influenza Virus		
Pathway:	NF-κB; Anti-infection		
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 : 83.33 mg/mL (147.31 mM; Need ultrasonic)

Concentration	Solvent	Mass	Preparing Stock Solutions		
			1 mg	5 mg	10 mg
1 mM			1.7678 mL	8.8391 mL	17.6782 mL
5 mM			0.3536 mL	1.7678 mL	3.5356 mL
10 mM			0.1768 mL	0.8839 mL	1.7678 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (3.68 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 2.08 mg/mL (3.68 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (3.68 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SC75741 is a broad and efficient NF-κB inhibitor with an IC₅₀ of 200 nM for p65^[1]. SC75741 blocks influenza viruses (IV) replication. SC75741 impairs DNA binding of the NF-κB subunit p65, resulting in reduced expression of cytokines, chemokines, and pro-apoptotic factors. SC75741 subsequently inhibits caspase activation and blocks caspase-mediated nuclear export of viral ribonucleoproteins^[2].

IC₅₀ & Target

p65
200 nM (IC₅₀)

In Vitro

SC75741 (5 μ M; 24-96 hours) inhibits long-term A549 cells proliferation^[2].

SC75741 (1-10 μ M; 5.5-65 hours) reduces A549 cells viability in a concentration-dependent manner indicating a cytostatic effect for A549 cells within a time frame of about 50 and 65 hours^[2].

SC75741 (5 μ M; 24 hours) strongly inhibits cleavage of the effector caspase 3 induced upon H7N7-infection^[2].

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

Cell Proliferation Assay^[2]

Cell Line:	A549 cells
Concentration:	5 μ M
Incubation Time:	24, 48, 72 and 96 hours
Result:	Inhibited long-term cell proliferation

Cell Viability Assay^[2]

Cell Line:	A549 cells
Concentration:	1, 2, 5 or 10 μ M
Incubation Time:	5.5, 29, 50, 65 hours
Result:	Reduced cells viability in a concentration-dependent manner.

Western Blot Analysis^[2]

Cell Line:	MDCK cells
Concentration:	5 μ M
Incubation Time:	24 hours
Result:	Inhibited cleavage of the effector caspase 3 induced upon H7N7-infection.

In Vivo

SC75741 (intraperitoneal injection; 15 mg/kg; for 2 days) leads to a reduced propagation of the H5N1 virus mRNA by 90% in the lungs of infected mice^[2].

The plasma-levels of SC74751 (intravenously of 5 mg/kg and intraperitoneally of 15 mg/kg; for 3.5 and 6 hours) after i.v. administration decreases mono-exponentially and half-life is roughly 40 min. After i.p. administration, elimination of SC75741 seems to be limited by a slow uptake from the peritoneum and a half-life of 55 min is observed^[1].

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

Animal Model:	Inbred female C57BL/6 mice at the age of 6-8 weeks ^[2]
Dosage:	15 mg/kg
Administration:	Intraperitoneal injection; for 2 days
Result:	Reduced the amount of viral mRNA by 90%.

Animal Model:	Inbred female C57BL/6 mice at the age of 6-8 weeks ^[1]
Dosage:	5 mg/kg or 15 mg/kg
Administration:	Intravenously of 5 mg/kg and intraperitoneally of 15 mg/kg; 3.5 and 6 hours

Result:

Half-life was roughly 40 min and 55 min for i.v. and i.p. administration, respectively.

CUSTOMER VALIDATION

- EMBO Rep. 2020 Nov 5;21(11):e49305.
- Oncogenesis. 2023 Mar 29;12(1):18.
- CNS Neurosci Ther. 2021 Jan 18.
- J Cell Mol Med. 2021 May 4.
- J Cell Mol Med. 2021 Mar 18.

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REFERENCES

- [1]. Haasbach E, et al. The NF-kappaB inhibitor SC75741 protects mice against highly pathogenic avian influenza A virus. Antiviral Res. 2013 Sep;99(3):336-44.
- [2]. Ehrhardt C, et al. The NF-kB inhibitor SC75741 efficiently blocks influenza virus propagation and confers a high barrier for development of viral resistance. Cell Microbiol. 2013 Jul;15(7):1198-211.

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

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