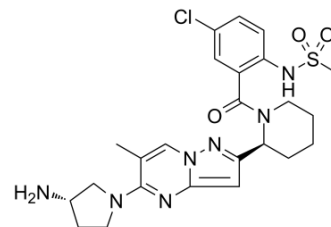


Presatovir

Cat. No.:	HY-16727		
CAS No.:	1353625-73-6		
Molecular Formula:	C ₂₄ H ₃₀ ClN ₇ O ₃ S		
Molecular Weight:	532.06		
Target:	RSV		
Pathway:	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 : 6 mg/mL (11.28 mM; Need ultrasonic and warming)
 H₂O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Mass	1 mg	5 mg	10 mg
	Concentration			
	1 mM	1.8795 mL	9.3974 mL	18.7949 mL
	5 mM	0.3759 mL	1.8795 mL	3.7590 mL
	10 mM	0.1879 mL	0.9397 mL	1.8795 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: ≥ 0.6 mg/mL (1.13 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 0.6 mg/mL (1.13 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 0.6 mg/mL (1.13 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Presatovir (GS-5806) is a novel, orally bioavailable RSV fusion inhibitor with a mean EC₅₀ value of 0.43 nM.

IC₅₀ & Target

EC₅₀: 0.43 nM (RSV)^[1]

In Vitro

Presatovir is a novel, orally bioavailable RSV fusion inhibitor discovered following a lead optimization campaign on a

hit originated from a phenotypic RSV antiviral high-throughput screen. Presatovir exhibits potent activity against a wide range of RSV A and B clinical isolates with a mean EC₅₀ value of 0.43 nM^[1]. GS-5806 inhibits pre to post triggered conformational changes of RSV F protein, suggesting a possible mechanism for antiviral activity^[2].

In Vivo

Presatovir demonstrates dose-dependent (0-30 mg/kg) antiviral efficacy in a cotton rat model of RSV infection. Oral bioavailability in preclinical species ranges from 46 to 100%, with penetration of the compound into the lung tissue demonstrated in Sprague-Dawley rats. Multidose oral treatment of Presatovir appears safe in adults, and in healthy human volunteers experimentally infected with RSV, a potent antiviral effect and reduction in disease severity is observed in the high dose group. A group treated with a lower dose of Presatovir allows for a PK-PD relationship to be established to help guide future dose selections^[1].

PROTOCOL

Cell Assay ^[1]

GS-5806 are diluted in 100% DMSO. To conduct the cytopathic antiviral assay, 0.4 µL of 100×concentrated 3-fold serially diluted drug is added to 20 µL of cell culture medium in a 384-well plate. HEp-2 cells are then suspended in MEM plus 10% FBS at a density of 1×10⁵ cells/mL, are infected in bulk with RSV A2 at a titer of approximately 1×10^{4.5} tissue culture infectious doses/mL. Immediately following infection, 20 µL of RSV-infected cells are added to each well. The cells are then cultured for 4 days at 37 °C. Following this incubation the cells are allowed to equilibrate to 25°C. The RSV-induced cytopathic effect is determined by adding 40 µL of Cell-Titer Glo viability reagent. Following a 10 min incubation at 25 °C, cell viability is determined^[1].

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

CUSTOMER VALIDATION

- J Antimicrob Chemother. 2018 Jul 1;73(7):1823-1829.

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REFERENCES

[1]. Mackman RL, et al. Discovery of an oral respiratory syncytial virus (RSV) fusion inhibitor (GS-5806) and clinical proof of concept in a human RSV challenge study. J Med Chem. 2015 Feb 26;58(4):1630-1643.

[2]. Samuel D, et al. GS-5806 inhibits pre- to postfusion conformational changes of the respiratory syncytial virus fusion protein. Antimicrob Agents Chemother. 2015 Nov;59(11):7109-12.

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

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