# PC786

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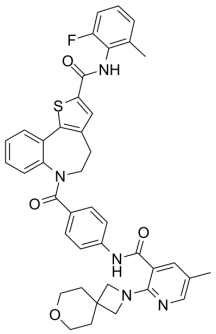
| **Cat. No.:** | HY-102038 |
| **CAS No.:** | 1902114-15-1 |
| **Molecular Formula:** | $C_{41}H_{38}FN_5O_4S$ |
| **Molecular Weight:** | 715.83 |
| **Target:** | RSV |
| **Pathway:** | Anti-infection |
| **Storage:** | -20°C, protect from light, stored under nitrogen<br>* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen) |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 130 mg/mL (181.61 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
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| | 1 mM | 1.3970 mL | 6.9849 mL | 13.9698 mL |
| | 5 mM | 0.2794 mL | 1.3970 mL | 2.7940 mL |
| | 10 mM | 0.1397 mL | 0.6985 mL | 1.3970 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 3.25 mg/mL (4.54 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 3.25 mg/mL (4.54 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3.25 mg/mL (4.54 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

PC786 is an inhaled respiratory syncytial virus (RSV) L protein polymerase inhibitor. PC786 demonstrates potent antiviral activity against RSV-A ($IC_{50}$ <0.09 to 0.71 nM) and RSV-B ($IC_{50}$, 1.3 to 50.6 nM)[1].

**In Vitro**

PC786 demonstrates a potent and selective antiviral activity against laboratory-adapted or clinical isolates of RSV-A ($IC_{50}$ <0.09 to 0.71 nM) and RSV-B ($IC_{50}$, 1.3 to 50.6 nM), which are determined by inhibition of cytopathic effects in HEp-2 cells without causing detectable cytotoxicity. PC786 inhibits RSV A2 activity, exhibiting an $IC_{50}$ and $IC_{90}$ of 0.50±0.0014 nM and 0.63±0.035 nM, respectively. PC786 inhibits RSV B WST activity, exhibiting an $IC_{50}$ and $IC_{90}$ of 27.3±0.77 nM and 57.1±3.87 nM, respectively. PC786 exhibits potent inhibition of cytopathic effect (CPE) induced by known RSV A clinical isolates ($IC_{50}$, 0.14

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| | to 3.2 nM). PC786 also exhibits potent inhibition of CPE induced by various low-passage-number clinical isolates of RSV A ($IC_{50}$, 0.42 nM [median]) and RSV B ($IC_{50}$, 17.5 nM [median])[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Once-daily treatment with PC786, on days-1 to 3, by either intratracheal (i.t.) or intranasal (i.n.) administration, is found to inhibit viral loads in the lungs of RSV A2-infected BALB/c mice. The viral load is below the level of detection when the drug is given at 2 mg/mL (40 μg/mouse [approximately 1.6 mg/kg of body weight] for i.t. treatment, or 80 μg/mouse [approximately 3.2 mg/kg] for i.n. treatment)[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES

[1]. Coates M, et al. Preclinical Characterization of PC786, an Inhaled Small-Molecule Respiratory Syncytial Virus L Protein Polymerase Inhibitor. Antimicrob Agents Chemother. 2017 Aug 24;61(9). pii: e00737-17.



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