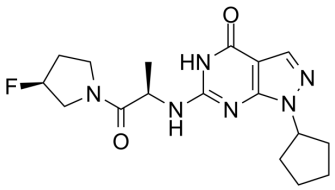
PDE9-IN-1

Cat. No.:	HY-126137
CAS No.:	2305087-92-5
Molecular Formula:	$C_{17}H_{23}FN_6O_2$
Molecular Weight:	362.4
Target:	Phosphodiesterase (PDE)
Pathway:	Metabolic Enzyme/Protease
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 (275.94 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7594 mL	13.7969 mL	27.5938 mL
	5 mM	0.5519 mL	2.7594 mL	5.5188 mL
	10 mM	0.2759 mL	1.3797 mL	2.7594 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: ≥ 2.5 mg/mL (6.90 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.90 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

PDE9-IN-1 is a potent, selective, and orally bioavailable phosphodiesterase-9A (PDE9A) Inhibitor with an IC_{50} of 8.7 nM[1].

IC_{50} & Target

PDE9A
8.7 nM (IC_{50})

In Vitro

PDE9-IN-1 is excellent selectivity across PDE families[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

PDE9-IN-1 (2.5 and 5.0 mg/kg; Oral administration; daily for 21 days) effectively recovers learning and memory function[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Unilateral common carotid artery occlusion (UCCAO) mouse model[1]
Dosage:	2.5 and 5.0 mg/kg
Administration:	Oral administration; daily for 21 days
Result:	Significantly reduced the day 6 escape latency time and increased the frequency of platform area crossings, and recovered learning and memory function. High dose group possibly improved the escape latency time of mice.

REFERENCES

[1]. Wu Y, et al. Discovery of Potent, Selective, and Orally Bioavailable Inhibitors against Phosphodiesterase-9, a Novel Target for the Treatment of Vascular Dementia. J Med Chem. 2019 Apr 25;62(8):4218-4224.

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