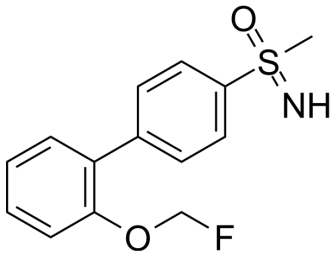
UCM-1306

Cat. No.:	HY-148867
CAS No.:	2258608-78-3
Molecular Formula:	$C_{14}H_{14}FNO_2S$
Molecular Weight:	279.33
Target:	Dopamine Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (179.00 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	3.5800 mL	17.9000 mL	35.8000 mL
	5 mM	0.7160 mL	3.5800 mL	7.1600 mL
	10 mM	0.3580 mL	1.7900 mL	3.5800 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 (8.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

UCM-1306 is a potent and orally active human dopamine D1 receptor allosteric modulator (PAM). UCM-1306 increases the endogenous dopamine (DA) maximal effect both in human and mouse D1 receptors. UCM-1306 is not only for improving motor symptoms but also for addressing the key comorbid cognitive impairment associated with long-term Parkinson's disease (PD)[1].

In Vitro

UCM-1306 (2-(Fluoromethoxy)-4'-(S-methylsulfonimidoyl)-1,1'-biphenyl; 1-10 μM) increases cAMP in a concentration-response manner with high potency (EC_{50}=60 nM).

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

In Vivo

UCM-1306 (2-(Fluoromethoxy)-4'-(S-methylsulfonimidoyl)-1,1'-biphenyl; 5 mg/kg; p.o.; C57BL/6J mice) has good brain penetration and oral availability. Plasma concentration can be quantified for up to 8 h with T_{max} at 0.5 h[1].

UCM-1306 (1 mg/kg; ip) enhances cocaine-induced hyperlocomotion in adult mice[1].

UCM-1306 (1 mg/kg; ip) helps consolidate long-term memory formation[1].

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

Animal Model:	Adult C57BL/6J mice with cocaine-induced hyperactivity model[1]
Dosage:	1 mg/kg; cocaine (20 mg/kg, sc)
Administration:	Intraperitoneal injection
Result:	Increased cocaine-induced hyperlocomotion, suggesting an in vivo potentiation of DA action at the D1R.

Animal Model:	Adult C57BL/6J mice
Dosage:	1 mg/kg
Administration:	Intraperitoneal injection
Result:	Increased memory trace in C57BL/6J mice.

REFERENCES

[1]. García-Cárceles J, et, al. 2-(Fluoromethoxy)-4'-(S-methanesulfonimidoyl)-1,1'-biphenyl (UCM-1306), an Orally Bioavailable Positive Allosteric Modulator of the Human Dopamine D1 Receptor for Parkinson's Disease. J Med Chem. 2022 Sep 22;65(18):12256-12272.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA