SNAP 94847 hydrochloride

Cat. No.: HY-107625A

CAS No.: 1781934-47-1

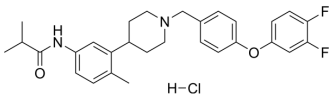
Molecular Formula: $C_{29}H_{33}ClF_2N_2O_2$

Molecular Weight: 515.03

Target: MCHR1 (GPR24)

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (485.41 mM; Need ultrasonic)
H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.9416 mL	9.7082 mL	19.4163 mL
5 mM	0.3883 mL	1.9416 mL	3.8833 mL
10 mM	0.1942 mL	0.9708 mL	1.9416 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: ≥ 2.08 mg/mL (4.04 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.04 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SNAP 94847 hydrochloride is a novel, high affinity selective melanin-concentrating hormonereceptor1 (MCHR1) antagonist with (K_i= 2.2 nM, K_d=530 pM), it displays >80-fold and >500-fold selectivity over MCHα1A and MCHD2 receptors respectively. SNAP 94847 hydrochloride binds with high affinity to the mouse and rat MCHR1 with minimal cross-reactivity to other GPCR, ion channels, enzymes, and transporters[1][3].

IC_{50} & Target

Ki: 2.2 nM (MCHR1); Kd: 530 pM (MCHR1)[3]

In Vivo

SNAP 94847 hydrochloride (oral gavage; 20 mg/kg; 14 days) shows an exaggerated locomotor response to acute quinpirole

[treatment: F(2,19)=11.31, treatment × time: F(34,323) = 4.061], the effect of SNAP 94847 on quinpirole-evoked ambulations over the entire observation period is significant compared to the untreated animals[2].
SNAP 94847 hydrochloride (oral administration; 20 mg/kg; 21 days) in drink water, produces a significant increase in ambulation relative to untreated animals [treatment: F(3,28) = 8.971; treatment × time: F(51,476)=11.50]. shows a marked increase in locomotion is apparent after 40 min in the SNAP 94847-treated group,this effect is significant over 180 min[2].
SNAP 94847 hydrochloride (oral administration; 10 mg/kg), has a good bioavailability (59%), low plasma and blood clearances of 4.2 L/hr/kg and 3.3 L/hr/kg, respectively, and the half-life was shown to be 5.2 h in rats in a PK study[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Rat[2]
Dosage:	20 mg/kg
Administration:	Oral administration; 20 mg/kg; 14 days
Result:	Exhibited a exaggerated locomotor response to acute quinpirole.

Animal Model:	Rat[2]
Dosage:	10 mg/kg
Administration:	Oral administration; 10 mg/kg
Result:	Exhibited good physicochemical properties in rats.

CUSTOMER VALIDATION

- Research Square Preprint. 2021 Sep.

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REFERENCES

[1]. David DJ, et al. Efficacy of the MCHR1 antagonist N-[3-(1-{[4-(3,4-difluorophenoxy)phenyl]methyl}(4-piperidyl))-4-methylphenyl]-2-methylpropanamide (SNAP 94847) in mouse models of anxiety and depression following acute and chronic administration is independent of hippocampal neurogenesis. J Pharmacol Exp Ther. 2007 Apr;321(1):237-48. Epub 2007 Jan 19.

[2]. Nair SG, et al. Effects of the MCH1 receptor antagonist SNAP 94847 on high-fat food-reinforced operant responding and reinstatement of food seeking in rats.Psychopharmacology (Berl). 2009 Jul;205(1):129-40.

[3]. Chen CA, et al. Synthesis and SAR investigations for novel melanin-concentrating hormone 1 receptor (MCH1) antagonists part 2: A hybrid strategy combining key fragments of HTS hits.J Med Chem. 2007 Aug 9;50(16):3883-90.

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