Hypidone hydrochloride

Cat. No.: HY-100769

CAS No.: 1339058-04-6

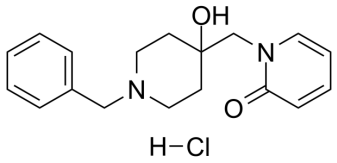
Molecular Formula: $C_{18}H_{23}ClN_2O_2$

Molecular Weight: 334.84

Target: 5-HT Receptor

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 : ≥ 30 mg/mL (89.60 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.9865 mL	14.9325 mL	29.8650 mL
5 mM	0.5973 mL	2.9865 mL	5.9730 mL
10 mM	0.2987 mL	1.4933 mL	2.9865 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 (7.47 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.47 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.47 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Hypidone hydrochloride (YL0919) is an orally active antidepressant agent with dual activity as a highly seletive 5-HT uptake blocker and an effective 5-HT_{1A} receptor agonist (K_i=0.19 nM). Hypidone hydrochloride inhibits the uptake of [^{3}H]-5-HT into rat cerebral cortical synaptosomes and HEK293 cells with IC_{50}s of 1.78 nM and 1.93 nM, respectively. Hypidone hydrochloride shows remarkable antidepressant effects in animal models and has the poential for the investigation of depressive disorder[1].

IC_{50} & Target

5-HT_{1A} Receptor

In Vitro

Hypidone hydrochloride inhibits the uptake of [^{3}H]-5-HT into rat cerebral cortical synaptosomes and HEK293 cells stably expressing hSERT with IC_{50} values of 1.78 nM and 1.93,respectively[1].

Hypidone hydrochloride (0.01 nM-10 μM) concentration-dependently inhibits forskolin-stimulated cAMP formation, exerts a concentration-dependent inhibitory effect on cAMP formation with an IC_{50} of approximately 23.9 nM. And in antagonism studies, WAY-100635 prevents Hypidone hydrochloride-mediated inhibition of forskolin-stimulated cAMP formation[1].

Hypidone hydrochloride shows affinities to rat 5-HT1A receptors, SERTs, NETs, and DATs, it binds to 5-HT1A receptor, serotonin transporter (SERT) with high affinity (K_i=0.19 and 0.72 nM, respectively), but its affinity to NET and DAT are low, blocking [^{3}H]nisoxetine and [^{3}H]win35428 binding with Ki values of 650 nM and 2652 nM respectively[1].

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

In Vivo

Hypidone hydrochloride (YL0919) (oral administration; 1.25 or 5 mg/kg; 4 weeks) and fluoxetine (10 mg/kg) reverses the inhibition of locomotor activity in CUS rats[1].

Hypidone hydrochloride (oral administration; 1.25, 2.5, and 5 mg/kg; 4 weeks) significantly reduces the immobility time in TST in mcie FST in mice. Besides, Hypidone hydrochloride displays no effect on the locomotor activity in a separate OFT. Furthermore, the antidepressant-like effect of Hypidone hydrochloride in TST and FST is completely bunted by coadministration with WAY-100635[1].

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

Animal Model:	Male ICR mice weighing 18–22 g[1]
Dosage:	1.25, 2.5, and 5 mg/kg
Administration:	Oral administration
Result:	Had an effect on Antidepressant-like mice in TST and FST.

REFERENCES

[1]. Chen, H. X. et al. Antidepressant-like activity of YL-0919: a novel combined selective serotonin reuptake inhibitor and 5-HT1A receptor agonist. PloS one 8, e83271, doi:10.1371/journal.pone.0083271 (2013).

[2]. Qin, J. J. et al. The role of activation of the 5-HT1A receptor and adenylate cyclase in the antidepressant-like effect of YL-0919, a dual 5-HT1A agonist and selective serotonin reuptake inhibitor. Neuroscience letters 582, 104-108, 2014.09.009 (2014)

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