MTEP hydrochloride

Cat. No.: HY-13206

CAS No.: 1186195-60-7

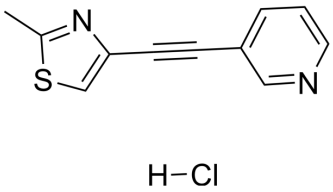
Molecular Formula: $C_{11}H_9ClN_2S$

Molecular Weight: 236.72

Target: mGluR

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

H_2O : 20 mg/mL (84.49 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.2244 mL	21.1220 mL	42.2440 mL
	5 mM	0.8449 mL	4.2244 mL	8.4488 mL
	10 mM	0.4224 mL	2.1122 mL	4.2244 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (422.44 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

MTEP hydrochloride is a potent, non-competitive and highly selective mGluR5 antagonist, with an IC_{50} of 5 nM and a K_i of 16 nM. MTEP hydrochloride shows antidepressant and anxiolytic-like effects. MTEP hydrochloride can be used for Parkinson's disease research[1][2][3][4].

IC_{50} & Target

mGluR5 5 nM (IC_{50})	mGluR5 16 nM (Ki)

In Vitro

MTEP shows highly selective for mGluR5 over mGluR1, has no effect on other mGluR subtypes, and has fewer off-target effects than MPEP (HY-14609A)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

MTEP (0-5 mg/kg, i.p., once) inhibits the catalepsy induced by Haloperidol (HY-14538) (0.5 mg/kg/2 ml i.p.)[2].
MTEP (0.3-3 mg/kg, intraperitoneal injection, once) induces antidepressant-like effects in male C57BL/6J mice[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Wistar rats (215-315 g, 5-9/group)[2]
Dosage:	1, 3 and 5 mg/kg
Administration:	IP, once, injected 60 min after Haloperidol (HY-14538) (0.5 mg/kg/2 ml i.p.)
Result:	Inhibited the catalepsy induced by Haloperidol (HY-14538).

Animal Model:	Male C57BL/6J mice (23-25 g)[3]
Dosage:	0.3, 1 and 3 mg/kg
Administration:	IP, 1 h before the test
Result:	Significantly decreased the immobility time of mice in the tail suspension test (TST) by 24%, 41% and 48%, respectively. The efficacy of MTEP used at doses of 1 and 3 mg/kg was not significantly different from that of Imipramine (HY-B1490A) (20 mg/kg, ip), used as a positive standard.

CUSTOMER VALIDATION

- Sci Adv. 2022 Aug 19;8(33):eabn7357.

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REFERENCES

[1]. Pałucha A, et al. Potential antidepressant-like effect of MTEP, a potent and highly selective mGluR5 antagonist. Pharmacol Biochem Behav. 2005 Aug;81(4):901-6.

[2]. Klodzinska A, et al. Anxiolytic-like effects of MTEP, a potent and selective mGlu5 receptor agonist does not involve GABA(A) signaling. Neuropharmacology. 2004 Sep;47(3):342-50.

[3]. Lea PM 4th, et al. Metabotropic glutamate receptor subtype 5 antagonists MPEP and MTEP. CNS Drug Rev. 2006 Summer;12(2):149-66.

[4]. Ossowska K, et al. MTEP, a new selective antagonist of the metabotropic glutamate receptor subtype 5 (mGluR5), produces antiparkinsonian-like effects in rats. Neuropharmacology. 2005 Sep;49(4):447-55.

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