Data Sheet (Cat.No.T6598)

TargetMol

MPEP

Chemical Properties

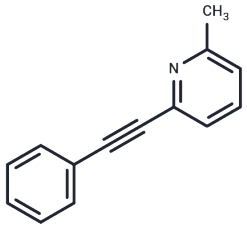
CAS No. : 96206-92-7

Formula: C14H11N

Molecular Weight: 193.24

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	MPEP is a selective mGlu5 receptor antagonist with IC50 of 36 nM, exhibits no appreciable activity at mGlu1b/2/3/4a/7b/8a/6 receptors.
Targets(IC50)	GluR
In vitro	MPEP has no appreciable agonist or antagonist activity at the closely related recombinant human mGlu1b receptor expressed in CHO-K1 cells or a purinoreceptor endogenously expressed in L(tk-) cells up to concentrations of 100 μM. Furthermore, MPEP shows no appreciable agonist or antagonist activity in cAMP accumulation or [35S] -GTPγS binding assays at the recombinant human group II and III metabotropic receptors (human mGlu2, -3, -4a, -6, -7b, -8a) as well as the human NMDA (NMDAR1A/2A, -1A/2B), rat AMPA (GluR3) and human kainate (GluR6) receptor subtypes. In slices of rat neonatal hippocampus, striatum, and cortex but not cerebellum, MPEP inhibits DHPG-stimulated PI hydrolysis with IC50 of 8.0 nM, 20.5 nM, and 17.9 nM, respectively. [1] MPEP positively modulates the hmGluR4 in a recombinant expression system, and the effect of MPEP is fully dependent on the activation of the orthosteric agonist L-AP4. [3]
In vivo	When microiontophoretically applied into the brain of rats, MPEP reduces DHPG-induced excitations but not the excitations induced by AMPA. Following intravenous administration, MPEP produces a dose-dependent inhibition of DHPG-induced but not AMPA-induced excitations with a rapid onset of action. Oral administration of MPEP also exhibits excellent anti-hyperalgesic activity in the Complete Freund's Adjuvant and turpentine models of inflammatory pain. [1] MPEP (1-30 mg/kg) induces anxiolytic-like effects in the conflict drinking test and the elevated plus-maze test in rats as well as in the four-plate test in mice. MPEP (1-20 mg/kg) shortens the immobility time in a tail suspension test in mice, but it is inactive in the behavioural despair test in rats. MPEP has no effect on locomotor activity or motor coordination. [2] MPEP significantly reduces fmr1 but not wild-type center square entries and duration. In open field tests, MPEP reduces fmr1tm1Cgr center field behavior to one indistinguishable from wild-type. MPEP produces a significant reduction of total locomotor activity in three of four groups tested, at both 10 mg/kg and 30 mg/kg. [4]

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 37 mg/mL (191.47 mM),Sonication is recommended. Ethanol: 37 mg/mL (191.47 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.1749 mL	25.8746 mL	51.7491 mL
5 mM	1.035 mL	5.1749 mL	10.3498 mL
10 mM	0.5175 mL	2.5875 mL	5.1749 mL
50 mM	0.1035 mL	0.5175 mL	1.035 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Gasparini F, et al. Neuropharmacology, 1999, 38(10), 1493-1503.
Tatarczyńska E, et al. Br J Pharmacol. 2001 Apr;132(7):1423-30.
Mathiesen JM, et al. Br J Pharmacol, 2003, 138(6), 1026-1030.
Yan QJ, et al. Neuropharmacology, 2005, 49(7), 1053-1066.