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DATASHEET

MPEP hydrochloride

Product overview

Name	MPEP hydrochloride
Cat No	HB0426
Biological action	Antagonist
Purity	>98%
Description	Potent, selective mGluR$_5$ antagonist / mGluR$_4$ positive allosteric modulator

Images

Biological Data

Biological description

MPEP hydrochloride is a potent, selective and non-competitive mGlu$_5$ receptor antagonist (IC$_{50}$ = 36 nM) and also a mGlu$_4$ receptor positive allosteric modulator (PAM).

MPEP prevents induction of various types of long term potentiation (LTP) and long term depression (LTD).

MPEP also suppresses addiction-like behaviour for cocaine, ethanol and nicotine in various models of addiction. MPEP is blood-brain barrier (BBB) permeable and is active *in vivo*.

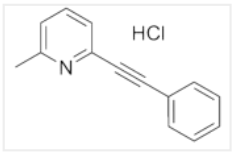
Water soluble MTEP hydrochloride is also available.

Solubility & Handling

Storage instructions	+4°C (desiccate)
Solubility overview	Soluble in DMSO (100mM) and in ethanol (100 mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	2-Methyl-6-(phenylethynyl)pyridine hydrochloride
Molecular Weight	229.71

Chemical structure	
Molecular Formula	$C_{14}H_{11}N.HCl$
CAS Number	219911-35-0
PubChem identifier	9794588
SMILES	CC1=CC=CC(=N1)C#CC2=CC=CC=C2.Cl
Source	Synthetic
InChi	InChI=1S/C14H11N.ClH/c1-12-6-5-9-14(15-12)11-10-13-7-3-2-4-8-13;/h2-9H,1H3;1H
InChiKey	PKDHDJBNEKXCBI-UHFFFAOYSA-N
MDL number	MFCD02262119
Appearance	White solid

References

2-Methyl-6-(phenylethynyl)-pyridine (MPEP), a potent, selective and systemically active mGlu5 receptor antagonist.

Gasparini F *et al* (1999) Neuropharmacology 38(10)
PubMedID 10530811

Separate Ionotropic and Metabotropic Glutamate Receptor Functions in Depotentiation vs. LTP: A Distinct Role for Group1 mGluR Subtypes and NMDARs.

Latif-Hernandez et al (2016) Front Cell Neurosci. 7;
PubMedID 27872582

NMDA receptors, mGluR5, and endocannabinoids are involved in a cascade leading to hippocampal long-term depression.

Izumi and Zorumski (2012) Neuropsychopharmacology 37(3)
PubMedID 21993209

Negative Allosteric Modulators of Metabotropic Glutamate Receptors Subtype 5 in Addiction: a Therapeutic Window.

Mihov and Hasler (2016) Int J Neuropsychopharmacol. 5;
PubMedID 26802568