MPEP (hydrochloride)

Item No. 14536

CAS Registry No.: 219911-35-0
Formal Name: 2-methyl-6-(2-phenylethynyl)-pyridine, monohydrochloride
MF: C_{14}H_{11}N • HCl
FW: 229.7
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_{max} 270, 303, 331 nm

Laboratory Procedures

For long term storage, we suggest that MPEP (hydrochloride) be stored as supplied at 20°C. It should be stable for at least two years.

MPEP (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the MPEP (hydrochloride) in the solvent of choice. MPEP (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of MPEP (hydrochloride) in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of MPEP (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of MPEP (hydrochloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Glutamate, the major excitatory neurotransmitter in the brain, acts on both ionotropic and metabotropic glutamate receptors. Excessive metabotropic glutamate receptor (mGluR) transmission has been linked to epilepsy, ischemia, pain, anxiety, and depression. Eight subtypes (1-8) and multiple splice variants of the mGluR have been identified and grouped based on their pharmacological properties. Group I mGluRs (subtypes 1 and 5) activate the phosphatidylinositol pathway, while Group II (2 and 3) and Group III (4, 6, 7 and 8) inhibit adenylyl cyclase. MPEP is a potent, highly selective non-competitive antagonist at the mGlu5a receptor subtype (IC_{50} = 36 nM) while having no agonist or antagonist activities at the mGlu1b receptor at concentrations up to 30 μM.1 MPEP is centrally active following systemic administration in vivo, inducing anxiolytic-like effects in rodent models of anxiety and depression when administered at 1-30 mg/kg.1 MPEP has also been reported as a positive allosteric modulator of mGluR4 at μM concentrations.2

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/14536

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Cayman Chemical makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery. Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees. Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.