

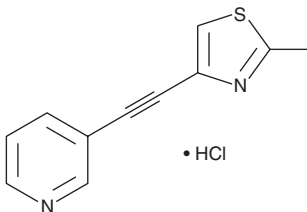
PRODUCT INFORMATION



MTEP (hydrochloride)

Item No. 14961

CAS Registry No.: 1186195-60-7
Formal Name: 3-[2-(2-methyl-4-thiazolyl)ethynyl]-pyridine, monohydrochloride
MF: $C_{11}H_8N_2S \cdot HCl$
FW: 236.7
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 283, 299 nm
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MTEP (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the MTEP (hydrochloride) in the solvent of choice, which should be purged with an inert gas. MTEP (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of MTEP (hydrochloride) in these solvents is approximately 2, 15, and 3, respectively.

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 MTEP (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of MTEP (hydrochloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

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 phosphatidyl inositol pathway, while Group II (2 and 3) and Group III (4, 6, 7, and 8) inhibit adenylyl cyclase. MTEP is a negative allosteric modulator of the mGlu5a receptor subtype ($K_i = 42$ nM; $IC_{50} = 110$ nM).¹ MTEP at 0.3 mg/kg produces antidepressant effects in several rodent models of depression.² It also demonstrates neuroprotective potential by preventing excitotoxic neuronal damage when administered through either intrahippocampal or intraperitoneal injection.³ Additionally, MTEP demonstrates an anxiolytic-like phenotype in rodent models similar to that of benzodiazepines while lacking undesirable sedative and addictive effects.⁴

References

1. Keck, T.M., Zou, M.F., Zhang, P., *et al.* *ACS Med. Chem. Lett.* **3**(7), 544-549 (2012).
2. Pomierny-Chamiolo, L., Poleszak, E., Pilc, A., *et al.* *Pharmacol. Rep.* **62**(6), 1186-1190 (2010).
3. Domin, H., Zieba, B., Golembiowska, K., *et al.* *Pharmacol. Rep.* **62**(6), 1051-1061 (2010).
4. Busse, C.S., Brodtkin, J., Tattersall, D., *et al.* *Neuropsychopharmacology* **29**(11), 1971-1979 (2004).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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