Data Sheet (Cat.No.T9169)

TargetMol

MPP+ iodide

Chemical Properties

CAS No. :	36913-39-0
Formula:	C12H12IN
Molecular Weight:	297.135
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	MPP+ iodide, the metabolite of a neurotoxin MPTP, causes symptom of Parkinson's disease (PD) in animal models by selectively destroying dopaminergic neurons in substantia nigra. MPP+ induces dopamine transporter (DAT) externalization in dopaminergic (DA) neurons, but internalization of serotonin transporter (SERT) in serotonergic (5-HT) neurons. MPP+ induces autophagic cell death in SH-SY5Y cells.
Targets(IC50)	Mitochondrial Metabolism,Autophagy
In vitro	**METHODS**: Human neuroblastoma cells SH-SY5Y were treated with MPP+ iodide (1-4 mM) for 12-48 h, and cell viability was detected using CCK-8 Assay.
In vivo	**METHODS**: To test for acute toxicity to embryonic or neonatal mice, MPP+ iodide (8.6-34.2 mg/kg) was injected intraperitoneally into pregnant or neonatal mice. **RESULTS**: Neurotoxicity induced by a single injection of MPP+ iodide was transient and recoverable in embryonic and neonatal mice. In contrast, no significant changes in MAO-A and MAO-B expression levels were observed in MPP+ iodide-treated mice. [3]

Solubility Information

Solubility	H2O: 100.00 mg/mL (336.55 mM),Sonication is recommended. DMSO: 135.00 mg/mL (454.34 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4.00 mg/mL (13.46 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3654 mL	16.8271 mL	33.6542 mL
5 mM	0.6731 mL	3.3654 mL	6.7308 mL
10 mM	0.3365 mL	1.6827 mL	3.3654 mL
50 mM	0.0673 mL	0.3365 mL	0.6731 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Zhao M, et al. Mitochondrial calcium dysfunction contributes to autophagic cell death induced by MPP+ via AMPK pathway. Biochem Biophys Res Commun. 2019 Feb 5;509(2):390-394.
Mapa MST, et al. Characteristics of the mitochondrial and cellular uptake of MPP+, as probed by the fluorescent mimic, 4'I-MPP. PLoS One. 2018 Aug 23;13(8):e0197946.
Sai T, et al. Biochemical evaluation of the neurotoxicity of MPTP and MPP^+ in embryonic and newborn mice. J Toxicol Sci. 2013;38(3):445-58.