MPP+ iodide

Catalog No.C11785 Batch:C1178503

Product Datasheet

Technical Data

Formula	$C_{12}H_{12}IN$					
Molecular Weight	297.13	**CAS No.**	36913-39-0			
Solubility (25°C)*	In vitro	DMSO	59 mg/mL (198.56 mM)			
		Ethanol	14 mg/mL (47.11 mM)			
		Water	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.3655 mL	16.8277 mL	33.6553 mL
5 mM	0.6731 mL	3.3655 mL	6.7311 mL
10 mM	0.3366 mL	1.6828 mL	3.3655 mL
50 mM	0.0673 mL	0.3366 mL	0.6731 mL

Biological Activity

Description	MPP+ iodide (N-Methyl-4-Phenylpyridinium 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 **autophagic cell death** in SH-SY5Y cells. MPP+ induces **dopamine transporter (DAT)** externalization in dopaminergic (DA) neurons, but internalization of **serotonin transporter (SERT)** in serotonergic (5-HT) neurons.
Targets	DAT [1] / SERT [1]
In vitro	Vacuolin-1 potently and reversibly inhibits the fusion between autophagosomes and lysosomes in mammalian cells, thereby inducing the accumulation of autophagosomes. Vacuolin-1 activates RAB5A to block autophagosome-lysosome fusion. [1]
In vivo	MPP+ iodide decreases mitochondrial oxidation-reduction activity and membrane potential in rat striatum.

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  HeLa cells
- **Concentrations**
  1 μM
- **Incubation Time**
  10 min, 2 h
- **Method**
  The active RAB5A in cells treated with vacuoin-1 or transfected with RAB5A-CA or RAB5A-DN are examined by a GST-tagged RABEP1 affinity isolation assay.

Animal Study:[3]

- **Animal Models**
  Male Wistar rats
- **Dosages**
  40 nM
- **Administration**
  intrastriatal infusion

References

https://pubmed.ncbi.nlm.nih.gov/25483964/ https://pubmed.ncbi.nlm.nih.gov/28673772/ https://pubmed.ncbi.nlm.nih.gov/12504872/

RETURN POLICY

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SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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