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Diagnostik & molekulare Diagnostik



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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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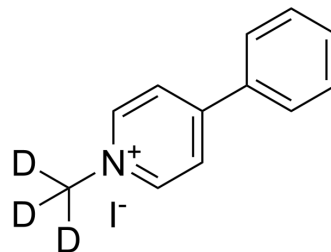
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MPP+-d₃ iodide

Cat. No.:	HY-W008719S
CAS No.:	207556-07-8
Molecular Formula:	C ₁₂ H ₉ D ₃ IN
Molecular Weight:	300.15
Target:	Mitochondrial Metabolism
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (333.17 mM; Need ultrasonic)

Concentration	Mass			
	1 mg	5 mg	10 mg	
1 mM	3.3317 mL	16.6583 mL	33.3167 mL	
5 mM	0.6663 mL	3.3317 mL	6.6633 mL	
10 mM	0.3332 mL	1.6658 mL	3.3317 mL	

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

MPP+-d₃ (iodide) is deuterium labeled MPP+ (iodide). MPP+ iodide, a toxic metabolite of the neurotoxin MPTP, causes symptom of Parkinson's disease in animal models by selectively destroying dopaminergic neurons in substantia nigra. MPP+ iodide is taken up by the dopamine transporter into dopaminergic neurons where it exerts its neurotoxic action on mitochondria by affecting complex I of the respiratory chain. MPP+ iodide is also a high affinity substrate for the serotonin transporter (SERT)[1][2].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.
- [2]. Charlton CG. 1-Methyl-4-phenylpyridinium (MPP+) but not 1-methyl-4-phenyl-1,2,3,6- tetrahydropyridine (MPTP) serves as methyl donor for dopamine: a possible

mechanism of action. J Geriatr Psychiatry Neurol. 1992;5(2):114-118.

[3]. Martí Y, et al. Methyl-4-phenylpyridinium (MPP+) differentially affects monoamine release and re-uptake in murine embryonic stem cell-derived dopaminergic and serotonergic neurons. Mol Cell Neurosci. 2017;83:37-45.

[4]. Zhao M, et al. Mitochondrial calcium dysfunction contributes to autophagic cell death induced by MPP+ via AMPK pathway. Biochem Biophys Res Commun. 2019;509(2):390-394.

Caution: Product has not been fully validated for medical applications. For research use only.

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