



Product Information

1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine hydrochloride

Product Number **M 0896**
Store at Room Temperature

Product Description

Molecular Formula: C₁₂H₁₅N • HCl
Molecular Weight: 209.7
CAS Number: 23007-85-4
Synonym: MPTP • HCl

1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) is a piperidine derivative and dopaminergic neurotoxin that has been used in neurological research. MPTP is metabolized to 1-methyl-4-phenylpyridine (MPP⁺), which in turn can cause free radical production *in vivo* and lead to oxidative stress. Thus MPP⁺ is generally acknowledged as the active metabolite derived from MPTP.^{2,3} The synthesis of MPTP has been reported.^{4,5}

MPTP is widely utilized in *in vivo* research studies as a model for Parkinsonism.⁶⁻¹¹ A mouse investigation of MPTP treatment has indicated a possible role for cyclooxygenase 2 (COX-2) in Parkinsonian neurodegeneration.¹² A review describes the application of MPTP studies to programmed cell death in neurodegenerative diseases.¹³

A molecular docking study of MPTP with various models of the cytochrome P450 2D6 structure has been described.¹⁴

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (10 mg/ml), yielding a clear, colorless solution. It is also soluble in DMSO.

Storage/Stability

Aqueous solutions may be stored for 24 hours at 4 ° C.

References

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GCY/RXR 12/03

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