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

Product Number M 0896
Store at Room Temperature

Product Description
Molecular Formula: C_{12}H_{15}N • 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 neurogenerative 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
1. The Merck Index, 12th ed., Entry# 6376.
