

Certificate of Analysis

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Product Name: TPMPA

Catalog No.: 1040

Batch No.: 6

CAS Number: 182485-36-5

IUPAC Name: (1,2,5,6-Tetrahydropyridin-4-yl)methylphosphinic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆H₁₂NO₂P.H₂O

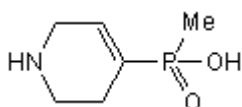
Batch Molecular Weight: 179.16

Physical Appearance: White solid

Solubility: water to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.5 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])

HPLC: Shows 99.4% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	40.23	7.88	7.82
Found	39.99	7.76	7.71

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

A selective, competitive GABA_A- ρ antagonist with only minimal effects on GABA_A and GABA_B receptors (K_b values are 2.1 μ M (antagonist), 320 μ M (antagonist) and $EC_{50} \sim 500 \mu$ M (weak agonist) respectively). Displays 8-fold selectivity for human recombinant $\rho 1$ receptors over $\rho 2$ receptors.

Physical and Chemical Properties:

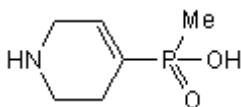
Batch Molecular Formula: C₆H₁₂NO₂P.H₂O

Batch Molecular Weight: 179.16

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Ragozzino et al (1996) Design and *in vitro* pharmacology of a selective γ -aminobutyric acid receptor antagonist. *Mol.Pharmacol.* **50** 1024. PMID: 8863850.

Murata et al (1996) The first selective antagonist for a GABA_C receptor. *Bioorg.Med.Chem.Lett.* **6** 2073.

Chebib et al (1998) GABA_C receptor antagonists differentiate between human $\rho 1$ and $\rho 2$ receptors expressed in *Xenopus* oocytes. *Eur.J.Pharmacol.* **357** 227. PMID: 9797041.

Xu et al (2009) The involvement of GABA-C receptors in paired pulse depression of inhibitory postsynaptic currents in rat hippocampal CA1 pyramidal neurons. *Exp.Neurol.* **216** 243. PMID: 19100735.

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