

Product Name: TPMPA

Catalog No.: 1040

Batch No.: 9

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.1½H₂O

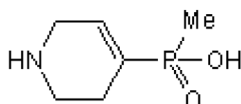
Batch Molecular Weight: 183.66

Physical Appearance: White solid

Solubility: water to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.1% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	39.24	7.96	7.63
Found	39.24	7.86	8.11

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

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CAS Number: 182485-36-5

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

Description:

TPMPA is a selective, competitive GABA_{A-ρ} antagonist with only minimal effects on GABA_A and GABA_B receptors (K_b values are 2.1 μM (antagonist), 320 μM (antagonist) and EC₅₀ ~ 500 μM (weak agonist) respectively). Displays 8-fold selectivity for human recombinant ρ1 receptors over ρ2 receptors.

Physical and Chemical Properties:

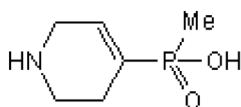
Batch Molecular Formula: C₆H₁₂NO₂P.1¼H₂O

Batch Molecular Weight: 183.66

Physical Appearance: White solid

Minimum Purity: ≥97%

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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

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.

Chebib et al (1998) GABA_C receptor antagonists differentiate between human r1 and r2 receptors expressed in *Xenopus* oocytes. *Eur.J.Pharmacol.* **357** 227. PMID: 9797041.

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

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