

Product Name: Z-Cyclopentyl-AP4

Catalog No.: 3249

Batch No.: 2

CAS Number: 103439-17-4

IUPAC Name: *cis*-(±)-1-Amino-3-phosphonocyclopentane carboxylic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆H₁₂NO₅P·¾H₂O
Batch Molecular Weight: 222.65
Physical Appearance: White solid
Solubility: 1.1eq. NaOH to 50 mM
Storage: Store at +4°C
Batch Molecular Structure:



(and enantiomer)

2. ANALYTICAL DATA

TLC: R_f = 0.19 (Pyridine:Acetic acid:Water:Butanol [3:8:11:22])
HPLC: Shows 98.3% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	32.37	6.11	6.29
Found	32.68	5.9	6.22

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Description:

Group III mGlu receptor agonist that exhibits higher potency at mGlu₄ than mGlu₈ (EC₅₀ values are 49 and 124 μM respectively) with no activity at mGlu₇. Selectively inhibits synaptic activity in the lateral perforant pathway (IC₅₀ values are 130 and 1859 μM in the lateral and medial perforant pathways respectively). Conformationally restrained analog of L-AP4 (Cat No. 0103).

Physical and Chemical Properties:

Batch Molecular Formula: C₆H₁₂NO₅P.¾H₂O

Batch Molecular Weight: 222.65

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



(and enantiomer)

Storage: Store at +4°C

Solubility & Usage Info:

1.1eq. NaOH to 50 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:

Crooks et al (1986) Cyclic analogues of 2-amino-4-phosphonobutanoic acid (APB) and their inhibition of hippocampal excitatory transmission and displacement of [³H]APB binding. *J.Med.Chem.* **29** 1988. PMID: 3020251.

Ayala et al (2008) Group III mGluR regulation of synaptic transmission at the SC-CA1 synapse is developmentally regulated. *Neuropharmacology* **54** 804. PMID: 18255102.

Jones et al (2008) Metabotropic glutamate receptors mGluR4 and mGluR8 regulate transmission in the lateral olfactory tract-piriform cortex synapse. *Neuropharmacology* **55** 440. PMID: 18625254.

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