

## Certificate of Analysis

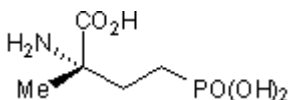
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**Product Name:** MAP4  
**CAS Number:** 157381-42-5  
**IUPAC Name:** (S)-2-Amino-2-methyl-4-phosphonobutanoic acid

**Catalog No.:** 0711 **Batch No.:** 4

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>5</sub>H<sub>12</sub>NO<sub>5</sub>P·¾H<sub>2</sub>O  
**Batch Molecular Weight:** 210.64  
**Physical Appearance:** White solid  
**Solubility:** 1eq. NaOH to 100 mM  
water to 100 mM  
phosphate buffered saline to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.33 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])  
**Melting Point:** Greater than 250°C  
**Chiral HPLC:** Shows 96.2% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Optical Rotation:** [α]<sub>D</sub> = +11.6 (Concentration = 1, Solvent = 6N HCl)  
**Microanalysis:**

	Carbon Hydrogen Nitrogen		
Theoretical	28.51	6.46	6.65
Found	28.57	6.65	6.74

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

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**IUPAC Name:** (S)-2-Amino-2-methyl-4-phosphonobutanoic acid

**Description:**

Selective group III metabotropic glutamate receptor antagonist in some electrophysiological systems. Group II/group III agonist in certain neurochemical systems.

**Physical and Chemical Properties:**

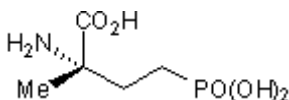
Batch Molecular Formula: C<sub>5</sub>H<sub>12</sub>NO<sub>5</sub>P.¾H<sub>2</sub>O

Batch Molecular Weight: 210.64

Physical Appearance: White solid

**Minimum Purity:** >96%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

1eq. NaOH to 100 mM

water to 100 mM

phosphate buffered saline 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:**

**Jane et al** (1994) Actions of two new sub-type selective metabotropic glutamate receptor antagonists in the neonatal rat spinal cord. *Br.J.Pharmacol.* **112** 809. PMID: 7921606.

**Salt and Eaton** (1995) Distinct presynaptic metabotropic receptors for L-AP4 and CCGI on GABAergic terminals: pharmacological evidence using novel α-methyl derivative mGluR antagonists, MAP4 and MCCG, in the rat thalamus *in vivo*. *Neuroscience* **65** 5. PMID: 7753406.

**Sekiyama et al** (1996) Structure-activity relationships of new agonists and antagonists of different metabotropic glutamate receptor subtypes. *Br.J.Pharmacol.* **117** 1493. PMID: 8730745.

**Kemp et al** (1996) Agonists of cyclic AMP-coupled metabotropic glutamate receptors in adult rat cortical slices. *Eur.J.Pharmacol.* **309** 79. PMID: 8864697.

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