

## Certificate of Analysis

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**Product Name:** L-AP4

**Catalog No.:** 0103

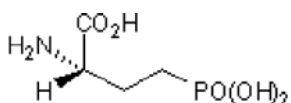
**Batch No.:** 32

CAS Number: 23052-81-5

IUPAC Name: L-(+)-2-Amino-4-phosphonobutyric acid

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>4</sub>H<sub>10</sub>NO<sub>5</sub>P.H<sub>2</sub>O  
**Batch Molecular Weight:** 201.12  
**Physical Appearance:** White solid  
**Solubility:** water to 5 mM  
 1eq. NaOH to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 99.4% purity  
**Chiral HPLC:** Shows 99.4% purity  
<sup>1</sup>H NMR: Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Optical Rotation:** [α]<sub>D</sub> = +42.4 (Concentration = 1, Solvent = 6N HCl)  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	23.89	6.01	6.96
Found	24.04	6.05	7.01

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

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IUPAC Name: L-(+)-2-Amino-4-phosphonobutyric acid

**Description:**

Selective group III metabotropic glutamate receptor agonist. Synaptic depressant. Agonist at the quisqualate-sensitized AP6 site in hippocampus. Available as part of the Group III mGlu Receptor Tocriset™ and Mixed mGlu Receptor Tocriset™ DL Mixture and D-isomer also available.

**Physical and Chemical Properties:**

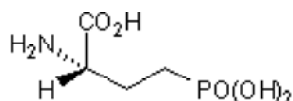
Batch Molecular Formula: C<sub>4</sub>H<sub>10</sub>NO<sub>5</sub>P.H<sub>2</sub>O

Batch Molecular Weight: 201.12

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

water to 5 mM

1eq. NaOH 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:**

**Bushell et al** (1995) Antagonism of the synaptic depressant actions of L-AP4 in the lateral perforant path by MAP4. *Neuropharmacology* **34** 239. PMID: 7617150.

**Tones et al** (1995) The agonist selectivity of a class III metabotropic glutamate receptor, human mGluR4a, is determined by the N-terminal extracellular domain. *NeuroReport* **7** 117. PMID: 8742431.

**Nakanishi** (1992) Molecular diversity of glutamate receptors and implications for brain functions. *Science* **258** 597. PMID: 1329206.

**Evans et al** (1982) The effect of a series of ω-phosphonic-α-carboxylic amino acids on electrically evoked and amino acid induced responses in isolated spinal cord preparations. *Br.J.Pharmacol.* **75** 65. PMID: 7042024.

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