

Certificate of Analysis

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Product Name: L-AP4

Catalog No.: 0103

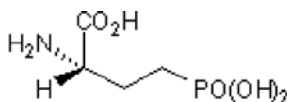
Batch No.: 33

CAS Number: 23052-81-5

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₄H₁₀NO₅P·½H₂O
Batch Molecular Weight: 187.6
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 98.8% purity
Chiral HPLC: Shows 99.0% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = +31.9 (Concentration = 1, Solvent = 6N HCl)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	25.61	5.64	7.47
Found	25.42	5.59	7.24

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

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CAS Number: 23052-81-5

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

Description:

L-AP4 is a selective group III metabotropic glutamate receptor agonist that acts at mGlu4, mGlu8, mGlu6 and mGlu7 receptors (EC₅₀ values = 0.1-0.13 μM, 0.29 μM, 1.0-2.4 μM and 249-337 μM, respectively). L-AP4 is a synaptic depressant and inhibits excitatory post-synaptic currents. L-AP4 is also an agonist at the quisqualate-sensitized AP6 site in hippocampus. DL Mixture and D-isomer also available.

Physical and Chemical Properties:

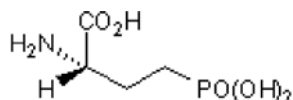
Batch Molecular Formula: C₄H₁₀NO₅P.¼H₂O

Batch Molecular Weight: 187.6

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

When purchased as a 1mg unit, this product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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:

Selvam *et al* (2018) Increased potency and selectivity for group III metabotropic glutamate receptor agonists binding at dual sites. *J.Med.Chem.* **61** 1969. PMID: 29397723.

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.

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