

## Certificate of Analysis

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**Product Name:** DL-AP5

**Catalog No.:** 0105

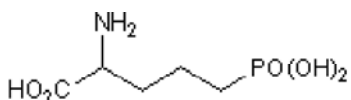
**Batch No.:** 33

CAS Number: 76326-31-3

IUPAC Name: DL-2-Amino-5-phosphonopentanoic acid

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>5</sub>H<sub>12</sub>NO<sub>5</sub>P  
**Batch Molecular Weight:** 197.13  
**Physical Appearance:** White solid  
**Solubility:** water to 10 mM  
 1eq. NaOH to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.26 (Pyridine:Acetic acid:Water:Butanol [3:8:11:22])  
**HPLC:** Shows >99.8% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	30.46	6.14	7.11
Found	30.54	6.02	7.04

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

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IUPAC Name: DL-2-Amino-5-phosphonopentanoic acid

**Description:**

DL-AP5 is a racemic mixture of the D- and L-isomers of AP5, a selective NMDA receptor antagonist that competes with glutamate binding and is commonly used to inhibit NMDA-dependent synaptic plasticity. D-AP5 (Cat. No. 0106) is the more active isomer and displays approximately 52-fold higher potency than the L-isomer, L-AP5 (Cat. No. 0107). In vitro D-AP5 reduces NMDA-induced depolarization of cortical neurons, with no effect on the response to L-Quisqualic acid (Cat. No. 0188) or Kainic acid (Cat. No. 0222). Following spinal injection of D-AP5, NMDA-response is rapidly reduced, with no effect seen on spontaneously active neurons. D-isomer,... Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

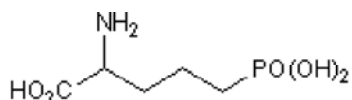
Batch Molecular Formula: C<sub>5</sub>H<sub>12</sub>NO<sub>5</sub>P

Batch Molecular Weight: 197.13

Physical Appearance: White solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**References:**

**Davies and Watkins** (1982) Actions of D and L forms of 2-amino-5-phosphonovalerate and 2-amino-4-phosphonobutyrate in the cat spinal cord. *Brain Res.* **235** 378. PMID: 6145492.

**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.

**Storage:** Store at RT

**Solubility & Usage Info:**

water to 10 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.

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