bio-techne
TOCRIS

Print Date: Nov 5th 2024

Certificate of Analysis

www.tocris.com

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: $C_5H_{12}NO_5P$

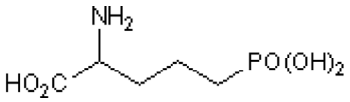
Batch Molecular Weight: 197.13

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_f = 0.26 (Pyridine:Acetic acid:Water:Butanol [3:8:11:22])

HPLC: Shows 98.6% purity

^{1}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

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CAS Number: 76326-31-3

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:

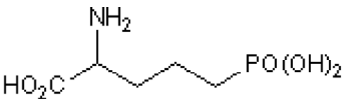
Batch Molecular Formula: $C_5H_{12}NO_5P$

Batch Molecular Weight: 197.13

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

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.