

## D-AP5

**Catalog No: tcsc0020421**



### Available Sizes

**Size:** 5mg

**Size:** 10mg



### Specifications

**CAS No:**

79055-68-8

**Formula:**

$C_5H_{12}NO_5P$

**Pathway:**

Membrane Transporter/Ion Channel;Neuronal Signaling

**Target:**

iGluR;iGluR

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

H2O : 50 mg/mL (ultrasonic);Ethanol : 2 mg/mL (ultrasonic)

**Alternative Names:**

D-APV;D-2-Amino-5-phosphonovaleric acid

**Observed Molecular Weight:**

197.13

### References

[1]. R H Evans, et al. The effects of a series of omega-phosphonic alpha-carboxylic amino acids on electrically evoked and excitant

amino acid-induced responses in isolated spinal cord preparations. *Br J Pharmacol.* 1982 Jan;75(1):65-75. [2]. Davis S, et al. The NMDA receptor antagonist D-2-amino-5-phosphonopentanoate (D-AP5) impairs spatial learning and LTP *in vivo* at intracerebral concentrations comparable to those that block LTP *in vitro*. *J Neurosci.* 1992 Jan;12(1):21-34. [3]. Morris RG, et al. N-methyl-d-aspartate receptors, learning and memory: chronic intraventricular infusion of the NMDA receptor antagonist d-AP5 interacts directly with the neural mechanisms of spatial learning. *Eur J Neurosci.* 2013 Mar;37(5):700-17.

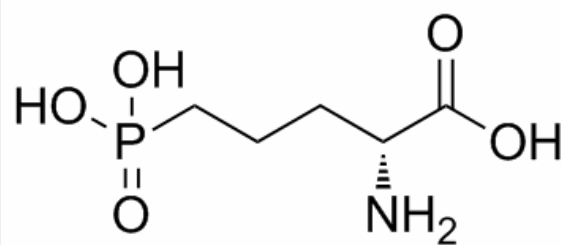
## Product Description

D-AP5 is a **NMDA** receptor antagonist.

IC50 & Target: NMDA<sup>[1]</sup>

**In Vivo:** D-AP5 is a NMDA receptor antagonist. Chronic intraventricular infusion of D-AP5 causes a parallel dose-dependent impairment of spatial learning and long-term potentiation (LTP) *in vivo*. Intracerebral concentrations of D-AP5 fail to induce any measurable sensorimotor disturbance when spatial learning is prevented<sup>[1]</sup>. D-AP5 infusion is associated with a progressive reduction in swim speed over trials. D-AP5 causes sensorimotor disturbances in the spatial task, but these gradually worsened as the animals fail to learn. Rats treated with D-AP5 show a delay-dependent deficit in spatial memory in the delayed matching-to-place protocol for the water maze<sup>[2]</sup>.

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