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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[1]

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[1]. 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[2].

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