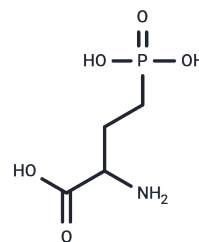


DL-AP4

## Chemical Properties

CAS No. : 6323-99-5  
 Formula: C<sub>4</sub>H<sub>10</sub>NO<sub>5</sub>P  
 Molecular Weight: 183.1  
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
 Actual storage temperature shall be subject to the COA.



## Biological Description

Description	DL-AP4, also known as 2-Amino-4-phosphonobutyric acid, is a competitive glutamate antagonist with defined binding affinity that is widely used to selectively inhibit glutamatergic neurotransmission, making it an essential experimental compound for probing synaptic signaling mechanisms and functional circuitry in central nervous system and visual system research.
Targets(IC50)	GluR
In vitro	In rat hippocampal slices, DL-AP4 antagonized excitatory synaptic transmission with a K <sub>d</sub> of 2.5 μM. Additionally, in vertebrate vision studies, DL-AP4 (50 μM) was used to isolate the OFF-pathway by blocking the ON-pathway light response via mGluR6 activation [1].

## Solubility Information

Solubility	H <sub>2</sub> O: 4 mg/mL (21.85 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.4615 mL	27.3075 mL	54.615 mL
5 mM	1.0923 mL	5.4615 mL	10.923 mL
10 mM	0.5461 mL	2.7307 mL	5.4615 mL
50 mM	0.1092 mL	0.5461 mL	1.0923 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Cull-Candy SG, et al. 2-Amino-4-phosphonobutyric acid as a glutamate antagonist on locust muscle. *Nature*. 1976 Jul 29;262(5567):408-9.

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Crooks SL, et al. Cyclic analogues of 2-amino-4-phosphonobutanoic acid (APB) and their inhibition of hippocampal excitatory transmission and displacement of [<sup>3</sup>H]APB binding. *J Med Chem*. 1986 Oct;29(10):1988-95.

Ellis EM, et al. Separate ON and OFF pathways in vertebrate vision first arose during the Cambrian. *Curr Biol*. 2020 Jun 8;30(11):R633-R634.

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