

Product Name: D-AP5 Revision Date: 05/10/2025

Product Data Sheet

D-AP5

Cat. No.: B6205

CAS No.: 79055-68-8 **Formula:** C5H12NO5P

M.Wt: 197.13

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

Target: iGluR; NMDAR

Pathway: Neuroscience; Membrane transporter/lon

channel

Storage: Store at -20° C

Solvent & Solubility

insoluble in DMSO; insoluble in EtOH; ≥28.1 mg/mL in H2O

Mass Solvent 1mg 5mg 10mg Preparing Concentration Stock Solutions 1 mM 25.3640 mL 50.7279 mL 5.0728 mL 5 mM 1.0146 mL 5.0728 mL 10.1456 mL 10 mM 0.5073 mL 2.5364 mL 5.0728 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

In Vitro

D-AP5 (CAS 79055-68-8) is a highly selective and competitive NMDA receptor antagonist, acting primarily in neuronal tissues by binding to the glutamate recognition site of the NMDA receptor complex and blocking receptor activation. This compound exhibits potent antagonist activity in central nervous system tissues, thereby inhibiting excitatory neurotransmission mediated by NMDA receptors. Additionally, D-AP5 impedes synaptic plasticity processes that are dependent on NMDA receptor activation.

In electrophysiological and neuropharmacological studies, D-AP5 demonstrates inhibitory effects on NMDA receptor-mediated responses with an IC50 value of [], tested in various neuronal preparations and cell

excitotoxic neuronal cell death under experimental conditions. D-AP5 is widely utilized to block NMMA-induced synaptic currents, assess the role of NMDA receptors in synaptic plasticity, and investigate excitatory amino acid-mediated signal transduction. In neuroscience research and pharmacological application contexts, D-AP5 is widely used for the study of NMDA receptor function, elucidation of plutamatergic signaling pathways, and the evaluation of neuroprotective strategies in models of neurological disorders, such as stroke, epilepsy, and neurodegeneration. Coll Viability Assay		cultures. It can also reduce calcium influx in neurons following NMDA receptor stimulation and prevent		
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Product Citations

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References

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- 3. Steele R J, Morris R G M. Delay dependent impairment of a matching to place task with chronic and intrahippocampal infusion of the NMDA antagonist D AP5[J]. Hippocampus, 1999, 9(2): 118-136.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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