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DATASHEET

DL-AP5 sodium salt

Product overview

Name DL-AP5 sodium salt

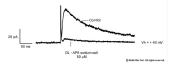
Cat No HB0252

Alternative names DL-APV sodium salt

Biological action Antagonist >98%

Description Competitive NMDA receptor antagonist. Sodium salt.

Images







Biological Data

Biological description

Application notes

DL-AP5 sodium salt is a water soluble, competitive NMDA receptor antagonist and is the sodium salt of DL-AP5. DL-AP5 sodium salt binds at the glutamate site and impairs learning and fear conditioning. DL-AP5 sodium salt is a water soluble NMDA receptor antagonist. It is typically used at a concentration of 50–100 μ M. DL-AP5 sodium salt from Hello Bio reduces evoked NMDAR current with full receptor antagonism at 50 μ M (see Fig 1 above), consistent with the literature for this compound.

#Protocol 1: Evoked NMDAR currents at +40 mV

- NMDAR currents were recorded via whole cell voltage clamp recordings of CA1 pyramidal neurons from rat hippocampal brain slice.
- NMDAR currents were evoked via a stimulating electrode placed in the CA3 region to stimulate the Schaffer collateral pathway.
- \bullet Each NMDAR current was evoked via a single square (150 $\mu s)$ pulse every 10 sec at a stimulus intensity that gave a reliable NMDAR current.
- Neurons were constantly held at +40 mV and NMDAR currents recorded in response to continual bath applications of NMDAR antagonists.
- All NMDAR recordings were made in the presence of GABAA-R and AMPAR antagonists.

Solubility & Handling

Storage instructions

Room temperature (desiccate)

Solubility overview

Soluble in water (100mM)

Handling

Important

Hydroscopic solid, contact with air may cause material to become sticky. Product performance should

not be affected but we recommend storing the material in a sealed jar.

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not

for human or veterinary use.

Chemical Data

Chemical name DL-2-Amino-5-phosphonopentanoic acid sodium salt

Molecular Weight

219.11

Chemical structure

-OH ÒNa

Molecular Formula C₅H₁₁NNaO₅P 1303993-72-7 **CAS Number PubChem identifier** 52974251

SMILES C(CC(C(=O)O)N)CP(=O)(O)[O-].[Na+]

Source Synthetic

InChi InChI=1S/C5H12NO5P.Na/c6-4(5(7)8)2-1-3-12(9,10)11;/h4H,1-3,6H2,(H,7,8)(H2,9,10,11);/q;+1/p-1

InChiKey KWRCYAPNGUCHOE-UHFFFAOYSA-M

Appearance White solid

References

Infusion of the NMDA receptor antagonist, DL-APV, into the basolateral amygdala disrupts learning to fear a novel and a familiar context as well as relearning to fear an extinguished context.

Laurent V et al (2009) Learn Mem 16(1) **PubMedID** 19141468

The basolateral amygdala is necessary for learning but not relearning extinction of context conditioned fear.

Laurent V et al (2008) Learn Mem 15(5) **PubMedID** 18463174

Comparative analysis of different competitive antagonists interaction with NR2A and NR2B subunits of NMDA ionotropic glutamate receptor.

Blaise MC et al (2005) J Mol Model 11(6) **PubMedID** 15928921