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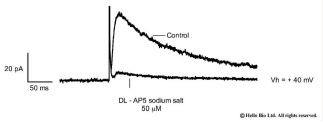
DATASHEET

DL-AP5 sodium salt

Product overview

Name	DL-AP5 sodium salt
Cat No	HB0252
Alternative names	DL-APV sodium salt
Biological action	Antagonist
Purity	>98%
Description	Competitive NMDA receptor antagonist. Sodium salt.

Images



Biological Data

Biological description	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.
Application notes	DL-AP5 sodium salt is a water soluble NMDA receptor antagonist. It is typically used at a concentration of 50–100 µM. DL-AP5 sodium salt from Hello Bio reduces evoked NMDAR current with full receptor antagonism at 50 µM (see Fig 1 above), consistent with the literature for this compound.

#Protocol 1: Evoked NMDAR currents at +40 mV

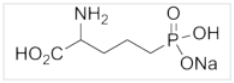
- NMDAR currents were recorded via whole cell voltage clamp recordings of CA1 pyramidal neurons from rat hippocampal brain slice.
- NMDAR currents were evoked via a stimulating electrode placed in the CA3 region to stimulate the Schaffer collateral pathway.
- Each NMDAR current was evoked via a single square (150 µs) 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	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.
Important	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	
Molecular Formula	$C_5H_{11}NNaO_5P$
CAS Number	1303993-72-7
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