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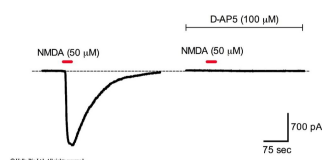
DATASHEET

NMDA

Product overview

Name	NMDA
Cat No	HB0454
Biological action	Agonist
Purity	>99%
Description	Prototypic NMDA receptor agonist

Images



Biological Data

Biological description Application notes

Prototypic NMDA receptor agonist which mimics the action of glutamate. Potent excitant. The prototypic NMDA receptor agonist NMDA is effective at a range of concentrations and typically used at 100 μ M. NMDA from Hello Bio induces inward depolarising whole-cell currents in cortical neurons at 10 μ M with prominent currents at 50 μ M. The actions of NDMA were fully blocked by D-AP5 (NMDAR antagonist) at 100 μ M (see Fig 1 above).

#Protocol 1: NMDA mediated whole-cell currents

- Whole cell voltage clamp recordings were obtained from layer V neurons of the mouse prelimbic cortex brain slice.
- Neurons were held at -70 mV and continuously perfused with aCSF in the presence of AMPA and GABA receptor antagonists CNQX (10 μ M) and Bicuculline (100 μ M) respectively and Tetrodotoxin (1 μ M) to reduce network activity.
- NMDA currents were evoked by applying NMDA directly to the recording chamber during continuous perfusion.
 - To test the selectivity of NMDA to NMDA receptors the experiment was repeated within the same neuron in the presence of the NMDA receptor antagonist D-AP5 (100 μ M). Under these conditions NMDA failed to induce a depolarising current.

Solubility & Handling

Storage instructions

Room temperature

Solubility overview
Important

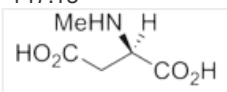
Soluble in water (100mM)

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 N-Methyl-D-aspartic acid
Molecular Weight 147.13

Chemical structure



Molecular Formula C₅H₉NO₄
CAS Number 6384-92-5
PubChem identifier 22880
SMILES CN[C@H](CC(=O)O)C(=O)O
InChi InChI=1S/C5H9NO4/c1-6-3(5(9)10)2-4(7)8/h3,6H,2H2,1H3,(H,7,8)(H,9,10)/t3-/m1/s1
InChiKey HOKKHZGPKSLGJE-GSVOUGTGSA-N
MDL number MFCD00004226

References

N-methyl-D-aspartic acid (NMDA) in the nervous system of the amphioxus *Branchiostoma lanceolatum*.

D'Aniello S *et al* (2007) BMC Neurosci 8

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Regulation of N-methyl-D-aspartic acid (NMDA) receptors by metabotropic glutamate receptor 7.

Gu Z *et al* (2012) J Biol Chem 287(13)

PubMedID [22287544](#)

Occurrence of D-aspartic acid and N-methyl-D-aspartic acid in rat neuroendocrine tissues and their role in the modulation of luteinizing hormone and growth hormone release.

D'Aniello A *et al* (2000) FASEB J 14(5)

PubMedID [10744627](#)
