



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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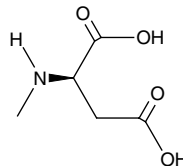
# Product Information



## NMDA

Item No. 14581

**CAS Registry No.:** 6384-92-5  
**Formal Name:** N-methyl-D-aspartic acid  
**Synonym:** N-Methyl-D-Aspartic Acid  
**MF:**  $C_5H_9NO_4$   
**FW:** 147.1  
**Purity:**  $\geq 98\%$   
**Stability:**  $\geq 2$  years at  $-20^\circ\text{C}$   
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that NMDA be stored as supplied at  $-20^\circ\text{C}$ . It should be stable for at least two years. NMDA is supplied as a crystalline solid. A stock solution may be made by dissolving the NMDA in the solvent of choice. NMDA is soluble in DMSO, which should be purged with an inert gas. The solubility of NMDA in DMSO is approximately 5 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of NMDA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of NMDA in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

NMDA is a synthetic amino acid derivative that acts as a specific agonist at the NMDA receptor, mimicking the excitatory action of the endogenous ligand glutamate.<sup>1,2</sup> Signaling through the NMDA receptor influences both neuronal plasticity and neurotoxicity.<sup>3</sup> Repetitive activation of NMDA synapses leads to long-term potentiation, which is used as a model of learning and the initial stages of memory formation.<sup>4</sup>

### References

1. Ishii, T., Moriyoshi, K., Sugihara, H., *et al.* Molecular characterization of the family of the N-methyl-D-aspartate receptor subunits. *J. Biol. Chem.* **268**(4), 2836-2843 (1993).
2. Ferkany, J.W., Zaczek, R., and Coyle, J.T. Kainic acid stimulates excitatory amino acid neurotransmitter release at presynaptic receptors. *Nature* **298**(19), 757-759 (1982).
3. Nakanishi, S. Molecular diversity of glutamate receptors and implications for brain function. *Science* **258**, 597-603 (1992).
4. Izquierdo, I. Role of NMDA receptors in memory. *Trends Pharmacol. Sci.* **12**, 128-129 (1991).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/14581](http://www.caymanchem.com/catalog/14581)

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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