

NMDA ϵ 2 (H-50): sc-9057

BACKGROUND

Glutamate receptors mediate most excitatory neurotransmission in the brain and play an important role in neural plasticity, neural development and neurodegeneration. Ionotropic glutamate receptors are categorized into NMDA receptors and kainate/AMPA receptors, both of which contain glutamate-gated, cation-specific ion channels. Kainate/AMPA receptors are co-localized with NMDA receptors in many synapses and consist of seven structurally related subunits designated GluR-1 to -7. The kainate/AMPA receptors are primarily responsible for the fast excitatory neurotransmission by glutamate, whereas the NMDA receptors exhibit slow kinetics of Ca²⁺ ions and a high permeability for Ca²⁺ ions. The NMDA receptors consist of five subunits: ϵ 1, 2, 3, 4 and one ζ subunit. The ζ subunit is expressed throughout the brainstem whereas the four ϵ subunits display limited distribution.

CHROMOSOMAL LOCATION

Genetic locus: GRIN2B (human) mapping to 12p13.1; Grin2b (mouse) mapping to 6 G1.

SOURCE

NMDA ϵ 2 (H-50) is a rabbit polyclonal antibody raised against amino acids 27-76 mapping within an extracellular domain of NMDA ϵ 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NMDA ϵ 2 (H-50) is recommended for detection of glutamate (NMDA) receptor subtype ϵ 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NMDA ϵ 2 (H-50) is also recommended for detection of glutamate (NMDA) receptor subtype ϵ 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NMDA ϵ 2 siRNA (h): sc-36085, NMDA ϵ 2 siRNA (m): sc-36086, NMDA ϵ 2 shRNA Plasmid (h): sc-36085-SH, NMDA ϵ 2 shRNA Plasmid (m): sc-36086-SH, NMDA ϵ 2 shRNA (h) Lentiviral Particles: sc-36085-V and NMDA ϵ 2 shRNA (m) Lentiviral Particles: sc-36086-V.

Molecular Weight of NMDA ϵ 2: 178 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

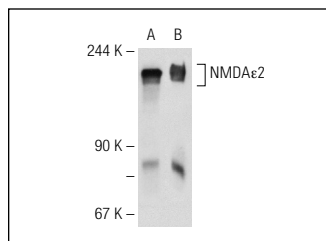
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

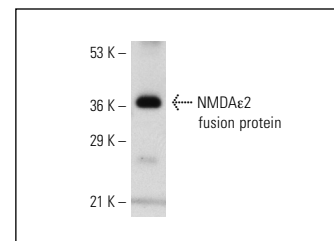
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



NMDA ϵ 2 (H-50): sc-9057. Western blot analysis of NMDA ϵ 2 expression in mouse brain (A) and rat brain (B) tissue extracts.



NMDA ϵ 2 (H-50): sc-9057. Western blot analysis of human recombinant NMDA ϵ 2 fusion protein.

SELECT PRODUCT CITATIONS

- Krapivinsky, G., et al. 2003. The NMDA receptor is coupled to the ERK pathway by a direct interaction between NR2B and Ras-GRF1. *Neuron* 40: 775-784.
- Bersier, M.G., et al. 2008. The expression of NMDA receptor subunits in cerebral cortex and hippocampus is differentially increased by administration of endobain E, a Na⁺-K⁺-ATPase inhibitor. *Neurochem. Res.* 33: 66-72.
- Han, X., et al. 2008. Binding of spermine and ifenprodil to a purified, soluble regulatory domain of the N-methyl-D-aspartate receptor. *J. Neurochem.* 107: 1566-1577.
- Wang, H.Y., et al. 2009. Dissociating β -amyloid from α 7 nicotinic acetylcholine receptor by a novel therapeutic agent, S 24795, normalizes α 7 nicotinic acetylcholine and NMDA receptor function in Alzheimer's disease brain. *J. Neurosci.* 29: 10961-10973.
- Wang, H.Y., et al. 2011. Repetitive transcranial magnetic stimulation enhances BDNF-TrkB signaling in both brain and lymphocyte. *J. Neurosci.* 31: 11044-11054.
- Xu, X., et al. 2011. Bisphenol-A rapidly enhanced passive avoidance memory and phosphorylation of NMDA receptor subunits in hippocampus of young rats. *Toxicol. Appl. Pharmacol.* 255: 221-228.
- Cao, H., et al. 2011. Antibody-mediated targeted gene transfer of helper virus-free HSV-1 vectors to rat neocortical neurons that contain either NMDA receptor 2B or 2A subunits. *Brain Res.* 1415: 127-135.

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Try **NMDA ϵ 2 (A-8): sc-365597**, our highly recommended monoclonal alternative to NMDA ϵ 2 (H-50). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **NMDA ϵ 2 (A-8): sc-365597**.