

NMDA ϵ 1 (C-17): sc-1468

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 epsilon subunits display limited distribution.

CHROMOSOMAL LOCATION

Genetic locus: GRIN2A (human) mapping to 16p13.2; Grin2a (mouse) mapping to 16 A1.

SOURCE

NMDA ϵ 1 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NMDA ϵ 1 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.

Blocking peptide available for competition studies, sc-1468 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NMDA ϵ 1 (C-17) is recommended for detection of NMDA ϵ 1 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 1 (C-17) is also recommended for detection of NMDA ϵ 1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NMDA ϵ 1 siRNA (h): sc-36083, NMDA ϵ 1 siRNA (m): sc-36084, NMDA ϵ 1 shRNA Plasmid (h): sc-36083-SH, NMDA ϵ 1 shRNA Plasmid (m): sc-36084-SH, NMDA ϵ 1 shRNA (h) Lentiviral Particles: sc-36083-V and NMDA ϵ 1 shRNA (m) Lentiviral Particles: sc-36084-V.

Molecular Weight of NMDA ϵ 1: 177 kDa.

Positive Controls: mouse brain extract: sc-2253, H4 cell lysate: sc-2408 or mouse cerebellum tissue extract: sc-2403.

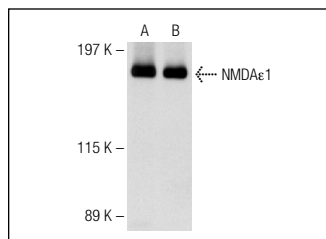
RESEARCH USE

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

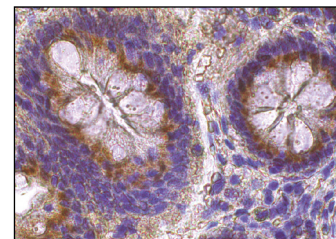
STORAGE

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

DATA



NMDA ϵ 1 (C-17): sc-1468. Western blot analysis of NMDA ϵ 1 expression in mouse brain (A) and mouse cerebellum (B) tissue extracts.



NMDA ϵ 1 (C-17): sc-1468. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Tezuka, T., et al. 1999. PSD-95 promotes Fyn-mediated tyrosine phosphorylation of the N-methyl-D-aspartate receptor subunit NR2A. *Proc. Natl. Acad. Sci. USA* 96: 435-440.
- Nassirpour, R., et al. 2010. Morphine- and CaMKII-dependent enhancement of GIRK channel signaling in hippocampal neurons. *J. Neurosci.* 30: 13419-13430.
- Finn, R., et al. 2010. Altered sensitivity to excitotoxic cell death and glutamate receptor expression between two commonly studied mouse strains. *J. Neurosci. Res.* 88: 2648-2660.
- Yan, J.Z., et al. 2011. Protein kinase C promotes N-methyl-D-aspartate (NMDA) receptor trafficking by indirectly triggering calcium/calmodulin-dependent protein kinase II (CaMKII) autophosphorylation. *J. Biol. Chem.* 286: 25187-25200.
- Finn, R., et al. 2011. Altered sensitivity of cerebellar granule cells to glutamate receptor overactivation in the Cln3(Δ ex7/8)-knock-in mouse model of juvenile neuronal ceroid lipofuscinosis. *Neurochem. Int.* 58: 648-655.
- Ferrario, C.R., et al. 2011. Distribution of AMPA receptor subunits and TARPs in synaptic and extrasynaptic membranes of the adult rat nucleus accumbens. *Neurosci. Lett.* 490: 180-184.
- Burgdorf, J., et al. 2011. Positive emotional learning is regulated in the medial prefrontal cortex by GluN2B-containing NMDA receptors. *Neuroscience* 192: 515-523.

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Try **NMDA ϵ 1 (E-4): sc-515148** or **NMDA ϵ 1 (D-8): sc-390094**, our highly recommended monoclonal alternatives to NMDA ϵ 1 (C-17).