

NMDAε1 (H-54): sc-9056

BACKGROUND

Glutamate receptors mediate most excitatory neurotransmission in the brain and play an important role in neural plasticity, neural development and neuro-degeneration. 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 neuro-transmission by glutamate, whereas the NMDA receptors exhibit slow kinetics of Ca^{2+} ions and a high permeability for Ca^{2+} 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: GRIN2A (human) mapping to 16p13.2; Grin2a (mouse) mapping to 16 A1.

SOURCE

NMDAε1 (H-54) is a rabbit polyclonal antibody raised against amino acids 23-76 mapping within an extracellular domain of NMDAε1 (glutamate receptor ϵ 1) of human origin.

PRODUCT

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

APPLICATIONS

NMDAε1 (H-54) is recommended for detection of NMDAε1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

NMDAε1 (H-54) is also recommended for detection of NMDAε1 in additional species, including bovine.

Suitable for use as control antibody for NMDAε1 siRNA (h): sc-36083, NMDAε1 siRNA (m): sc-36084, NMDAε1 shRNA Plasmid (h): sc-36083-SH, NMDAε1 shRNA Plasmid (m): sc-36084-SH, NMDAε1 shRNA (h) Lentiviral Particles: sc-36083-V and NMDAε1 shRNA (m) Lentiviral Particles: sc-36084-V.

Molecular Weight of NMDAε1: 177 kDa.

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

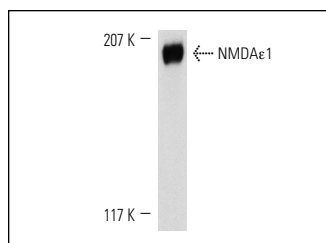
STORAGE

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

RESEARCH USE

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

DATA



NMDAε1 (H-54): sc-9056. Western blot analysis of NMDAε1 expression in H4 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Mattar, P.A., et al. 2003. An antisense construct reduces N-methyl-D-aspartate receptor 2A expression and receptor-mediated excitotoxicity as determined by a novel flow cytometric approach. *J. Neurosci. Res.* 74: 782-793.
2. Langley, R.R., et al. 2009. Generation of an immortalized astrocyte cell line from H-2Kb-tsA58 mice to study the role of astrocytes in brain metastasis. *Int. J. Oncol.* 35: 665-672.
3. 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.
4. Borgmann-Winter, K.E., et al. 2009. Human olfactory epithelial cells generated *in vitro* express diverse neuronal characteristics. *Neuroscience* 158: 642-653.
5. Shen, H., et al. 2010. Neuroprotection by donepezil against glutamate excitotoxicity involves stimulation of α 7 nicotinic receptors and internalization of NMDA receptors. *Br. J. Pharmacol.* 161: 127-139.
6. Wang, H.Y., et al. 2011. Repetitive transcranial magnetic stimulation enhances BDNF-TrkB signaling in both brain and lymphocyte. *J. Neurosci.* 31: 11044-11054.
7. Wang, H.Y., et al. 2012. Reducing amyloid-related Alzheimer's disease pathogenesis by a small molecule targeting filamin A. *J. Neurosci.* 32: 9773-9784.
8. Xu, X., et al. 2013. Sex-specific effects of bisphenol-A on memory and synaptic structural modification in hippocampus of adult mice. *Horm. Behav.* 63: 766-775.

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Try **NMDAε1 (E-4): sc-515148** or **NMDAε1 (D-8): sc-390094**, our highly recommended monoclonal alternatives to NMDAε1 (H-54).