

NMDA ϵ 4 (H-119): sc-10727

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 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 ω subunit is expressed throughout the brainstem whereas the four epsilon subunits display limited distribution.

CHROMOSOMAL LOCATION

Genetic locus: GRIN2D (human) mapping to 19q13.33; Grin2d (mouse) mapping to 7 B4.

SOURCE

NMDA ϵ 4 (H-119) is a rabbit polyclonal antibody raised against amino acids 268-386 of NMDA ϵ 4 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.

STORAGE

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

APPLICATIONS

NMDA ϵ 4 (H-119) is recommended for detection of the glutamate (NMDA) receptor ϵ 4 subtype 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), immunohistochemistry (including paraffin-embedded sections) (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 4 (H-119) is also recommended for detection of the glutamate (NMDA) receptor ϵ 4 subtype in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for NMDA ϵ 4 siRNA (h): sc-36087, NMDA ϵ 4 siRNA (m): sc-36088, NMDA ϵ 4 shRNA Plasmid (h): sc-36087-SH, NMDA ϵ 4 shRNA Plasmid (m): sc-36088-SH, NMDA ϵ 4 shRNA (h) Lentiviral Particles: sc-36087-V and NMDA ϵ 4 shRNA (m) Lentiviral Particles: sc-36088-V.

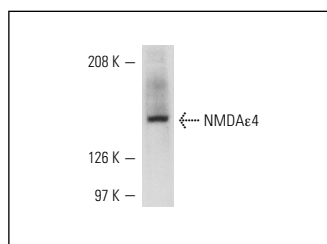
Molecular Weight of NMDA ϵ 4: 165 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283, Hel 92.1.7 cell lysate: sc-2270 or IMR-32 cell lysate: sc-2409.

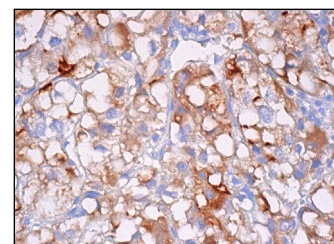
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



NMDA ϵ 4 (H-119): sc-10727. Western blot analysis of NMDA ϵ 4 expression in IMR-32 whole cell lysate.



NMDA ϵ 4 (H-119): sc-10727. Immunoperoxidase staining of human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Ruel, J., et al. 2008. Salicylate enables cochlear arachidonic-acid-sensitive NMDA receptor responses. *J. Neurosci.* 28: 7313-7323.
- Imamura, Y., et al. 2008. Sustained saturating level of glycine induces changes in NR2B-containing-NMDA receptor localization in the CA1 region of the hippocampus. *J. Neurochem.* 105: 2454-2465.
- 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.
- Pham, N., et al. 2014. Down regulation of brain cellular prion protein in an animal model of Insulin resistance: possible implication in increased prevalence of stroke in pre-diabetics/diabetics. *Biochem. Biophys. Res. Commun.* 448: 151-156.

RESEARCH USE

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



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Try **NMDA ϵ 4 (G-10): sc-17822**, our highly recommended monoclonal alternative to NMDA ϵ 4 (H-119).