

# NMDA $\epsilon$ 3 (H-80): sc-50437

## 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  $\text{Ca}^{2+}$  ions and a high permeability for  $\text{Ca}^{2+}$  ions. The NMDA receptors consist of five subunits:  $\epsilon$ 1, 2, 3, 4 and one  $\zeta$  subunit. The  $\zeta$  subunit is expressed throughout the brainstem whereas the four epsilon subunits display limited distribution.

## CHROMOSOMAL LOCATION

Genetic locus: GRIN2C (human) mapping to 17q25.1; Grin2c (mouse) mapping to 11 E2.

## SOURCE

NMDA $\epsilon$ 3 (H-80) is a rabbit polyclonal antibody raised against amino acids 21-100 mapping near the N-terminus of NMDA $\epsilon$ 3 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  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 $\epsilon$ 3 (H-80) is recommended for detection of NMDA $\epsilon$ 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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 $\epsilon$ 3 (H-80) is also recommended for detection of NMDA $\epsilon$ 3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NMDA $\epsilon$ 3 siRNA (h): sc-42546, NMDA $\epsilon$ 3 siRNA (m): sc-42547, NMDA $\epsilon$ 3 shRNA Plasmid (h): sc-42546-SH, NMDA $\epsilon$ 3 shRNA Plasmid (m): sc-42547-SH, NMDA $\epsilon$ 3 shRNA (h) Lentiviral Particles: sc-42546-V and NMDA $\epsilon$ 3 shRNA (m) Lentiviral Particles: sc-42547-V.

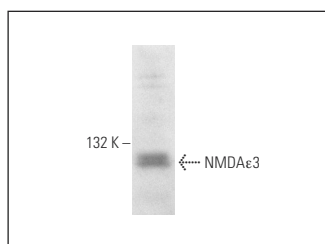
Molecular Weight of NMDA $\epsilon$ 3: 135 kDa.

Positive Controls: mouse cerebellum extract: sc-2403 or HeLa whole cell lysate: sc-2200.

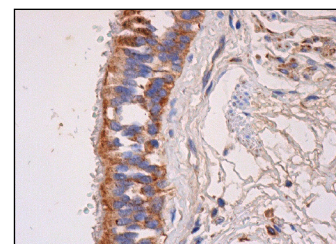
## RECOMMENDED SECONDARY REAGENTS

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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz<sup>™</sup>: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



NMDA $\epsilon$ 3 (H-80): sc-50437. Western blot analysis of NMDA $\epsilon$ 3 expression in HeLa whole cell lysate.



NMDA $\epsilon$ 3 (H-80): sc-50437. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells.

## SELECT PRODUCT CITATIONS

1. Yang, C.C., et al. 2008. NMDA receptor blocker ameliorates ischemia-reperfusion-induced renal dysfunction in rat kidneys. *Am. J. Physiol. Renal Physiol.* 294: F1433-F1440.
2. Liu, Q. and Wong-Riley, M.T. 2010. Postnatal development of N-methyl-D-aspartate receptor subunits 2A, 2B, 2C, 2D, and 3B immunoreactivity in brain stem respiratory nuclei of the rat. *Neuroscience* 171: 637-654.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.