

p-NMDAε2 (Tyr 1336): sc-135703

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 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 Ω subunit. The Ω subunit is expressed throughout the brainstem whereas the four epsilon subunits display limited distribution. Mouse, rat and human NMDAε2 are phosphorylated on Tyr 1336, which may regulate calpain-mediated cleavage and can be induced by Fyn.

REFERENCES

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- Bliss, T.V., et al. 1993. A synaptic model of memory: long-term potentiation in the hippocampus. *Nature* 361: 31-39.
- Watanabe, M., et al. 1994. Distinct distributions of five NMDA receptor channel subunit mRNAs in the brainstem. *J. Comp. Neurol.* 343: 520-531.
- Hollmann, M., et al. 1994. Cloned glutamate receptors. *Ann. Rev. Neurosci.* 17: 31-108.
- Schiffer, H.H., et al. 1997. Rat GluR7 and a carboxy-terminal splice variant, GluR7β are functional kainate receptor subunits with a low sensitivity to glutamate. *Neuron* 19: 1141-1146.

CHROMOSOMAL LOCATION

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

SOURCE

p-NMDAε2 (Tyr 1336) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 1336 of NMDAε2 of rat origin.

PRODUCT

Each vial contains IgG in 100 µl of 10 mM HEPES with 150 mM NaCl, 50% glycerol and < 0.1% BSA.

RESEARCH USE

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

APPLICATIONS

p-NMDAε2 (Tyr 1336) is recommended for detection of Tyr 1336 phosphorylated NMDAε2 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000) and immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for NMDAε2 siRNA (h): sc-36085, NMDAε2 siRNA (m): sc-36086, NMDAε2 shRNA Plasmid (h): sc-36085-SH, NMDAε2 shRNA Plasmid (m): sc-36086-SH, NMDAε2 shRNA (h) Lentiviral Particles: sc-36085-V and NMDAε2 shRNA (m) Lentiviral Particles: sc-36086-V.

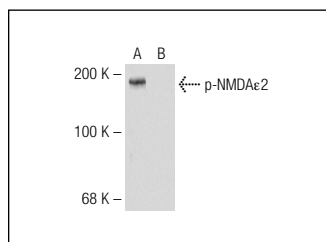
Molecular Weight of p-NMDAε2: 178 kDa.

Positive Controls: rat hippocampal tissue extract.

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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-NMDAε2 (Tyr 1336): sc-135703. Western blot analysis of NMDAε2 phosphorylation in untreated (A) and lambda protein phosphatase (sc-200312A) treated (B) rat hippocampal tissue extracts.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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