

NMDA ϵ 1 (m): 293 Lysate: sc-179014

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 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 ϵ subunits display limited distribution.

REFERENCES

- Choi, D.W., et al. 1990. The role of glutamate neurotoxicity in hypoxic-ischemic neuronal death. *Annu. Rev. Neurosci.* 13: 171-182.
- Nakanishi, S. 1992. Molecular diversity of glutamate receptors and implications for brain function. *Science* 258: 597-603.
- Stern, P., et al. 1992. Fast and slow components of unitary EPSCs on stellate cells elicited by focal stimulation in slices of rat visual cortex. *J. Physiol.* 449: 247-278.
- 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. *Annu. Rev. Neurosci.* 17: 31-108.
- Schiffer, H.H., et al. 1997. Rat GluR-7 and a carboxy-terminal splice variant, GluR-7 β are functional kainate receptor subunits with a low sensitivity to glutamate. *Neuron* 19: 1141-1146.

CHROMOSOMAL LOCATION

Genetic locus: Grin2a (mouse) mapping to 16 A1.

PRODUCT

NMDA ϵ 1 (m): 293 Lysate represents a lysate of mouse NMDA ϵ 1 transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

NMDA ϵ 1 (m): 293 Lysate is suitable as a Western Blotting positive control for mouse reactive NMDA ϵ 1 antibodies. Recommended use: 10-20 μ l per lane.

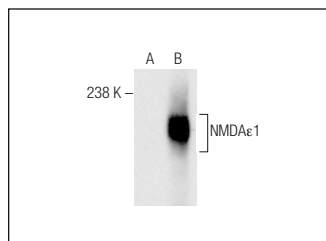
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

NMDA ϵ 1 (5): sc-136004 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse NMDA ϵ 1 expression in NMDA ϵ 1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

DATA



NMDA ϵ 1 (5): sc-136004. Western blot analysis of NMDA ϵ 1 expression in non-transfected: sc-110760 (A) and mouse NMDA ϵ 1 transfected: sc-179014 (B) 293 whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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