

NMDA ζ 1 (C-20): sc-1467

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 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.

CHROMOSOMAL LOCATION

Genetic locus: GRIN1 (human) mapping to 9q34.3; Grin1 (mouse) mapping to 2 A3.

SOURCE

NMDA ζ 1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NMDA ζ 1 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.

Blocking peptide available for competition studies, sc-1467 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-1467 PE, 100 tests.

APPLICATIONS

NMDA ζ 1 (C-20) is recommended for detection of the glutamate (NMDA) receptor ζ 1 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), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NMDA ζ 1 siRNA (h): sc-36081, NMDA ζ 1 siRNA (m): sc-36082, NMDA ζ 1 shRNA Plasmid (h): sc-36081-SH, NMDA ζ 1 shRNA Plasmid (m): sc-36082-SH, NMDA ζ 1 shRNA (h) Lentiviral Particles: sc-36081-V and NMDA ζ 1 shRNA (m) Lentiviral Particles: sc-36082-V.

Molecular Weight of NMDA ζ 1: 115 kDa.

Positive Controls: mouse brain extract: sc-2253, mouse cerebellum extract: sc-2403 or rat brain extract: sc-2392.

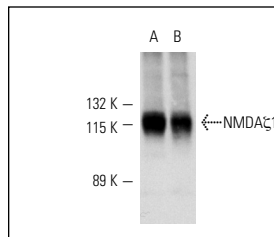
RESEARCH USE

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

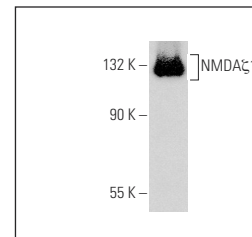
STORAGE

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

DATA



NMDA ζ 1 (C-20): sc-1467. Western blot analysis of glutamate (NMDA) receptor ζ 1 expression in total mouse brain (A) and mouse cerebellum (B) extracts.



NMDA ζ 1 (C-20): sc-1467. Western blot analysis of NMDA ζ 1 expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

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- Becker, J., et al. 1998. Molecular and pharmacological characterization of recombinant rat/mice N-methyl-D-aspartate receptor subtypes in the yeast *Saccharomyces cerevisiae*. *Eur. J. Biochem.* 256: 427-435.
- Gallagher, Z.R., et al. 2010. Recovery of viscerosensory innervation from the dorsal root ganglia of the adult rat following capsaicin-induced injury. *J. Comp. Neurol.* 518: 3529-3540.
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- Gruol, D.L., et al. 2011. Neuroadaptive changes in cerebellar neurons induced by chronic exposure to IL-6. *J. Neuroimmunol.* 239: 28-36.
- Nelson, T.E., et al. 2011. Altered hippocampal synaptic transmission in transgenic mice with astrocyte-targeted enhanced CCL2 expression. *Brain Behav. Immun.* 25: S106-S119.
- Finn, R., et al. 2011. Altered sensitivity of cerebellar granule cells to glutamate receptor overactivation in the Cln3(Δ ex7/8)-knock-in mouse model of juvenile neuronal ceroid lipofuscinosis. *Neurochem. Int.* 58: 648-655.
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- Olianas, M.C., et al. 2012. Potentiation of dopamine D1-like receptor signaling by concomitant activation of δ - and μ -opioid receptors in mouse medial prefrontal cortex. *Neurochem. Int.* 61: 1404-1416.