

# NR3B (W-20): sc-55731

## 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 co-localize with NMDA receptors in many synapses and consist of seven structurally related subunits designated GluR-1-7. 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. One such NMDA receptor, NR3B, is expressed in motor neurons and forms cation channels impermeable to calcium, which can resist many open-channel blockers. NR3B functions in the brain as an excitatory glycine receptor, modifying the normal role of glycine as an inhibitory neurotransmitter.

## REFERENCES

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- Nishi, M., et al. 2001. Motoneuron-specific expression of NR3B, a novel NMDA-type glutamate receptor subunit that works in a dominant-negative manner. *J. Neurosci.* 21: RC185.
- Chatterton, J.E., et al. 2002. Excitatory glycine receptors containing the NR3 family of NMDA receptor subunits. *Nature* 415: 793-798.
- Matsuda, K. et al. 2003. Specific assembly with the NMDA receptor 3B subunit controls surface expression and calcium permeability of NMDA receptors. *J. Neurosci.* 23: 10064-10073.
- Ishihama, K., et al. 2005. Prenatal development of NMDA receptor composition and function in trigeminal neurons. *Arch. Histol. Cytol.* 68:321-335.
- Salter, M.G., et al. 2005. NMDA receptors are expressed in developing oligodendrocyte processes and mediate injury. *Nature* 438:1167-1171.
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## CHROMOSOMAL LOCATION

Genetic locus: GRIN3B (human) mapping to 19p13.3.

## SOURCE

NR3B (W-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of NR3B of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55731 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NR3B (W-20) is recommended for detection of NR3B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NR3B siRNA (h): sc-62701, NR3B shRNA Plasmid (h): sc-62701-SH and NR3B shRNA (h) Lentiviral Particles: sc-62701-V.

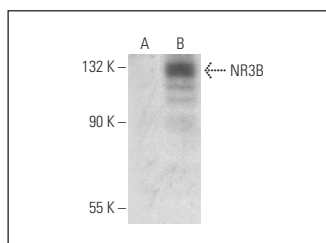
Molecular Weight of NR3B: 100 kDa.

Positive Controls: NR3B (h): 293T Lysate: sc-371947.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



NR3B (W-20): 55731. Western blot analysis of NR3B expression in non-transfected: sc-117752 (A) and human NR3B transfected: sc-371947 (B) 293T whole cell lysates.

## STORAGE

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

## 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.