

Anti-NMDA Receptor, NR2B Subunit Antibody



PhosphoSolutions®
Antibodies that work™

Catalog #: 1496-NR2B

Size: 100 µl

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Host	Applications	Species Tested	Species Reactivity*	Molecular Reference
Rabbit	WB 1:1000 IHC 1:1000 (frozen sections) IP 3 µl per 200 µg lysate	M, H, R		~180 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

Biological Significance: The ion channels activated by glutamate that are sensitive to N-methyl-D-aspartate (NMDA) are designated NMDA receptors (NMDAR). The NMDAR plays an essential role in memory, neuronal development and it has also been implicated in several disorders of the central nervous system including Alzheimer's, epilepsy and ischemic neuronal cell death (Grosshans et al., 2002; Wenthold et al., 2003; Carroll and Zukin, 2002). The NMDA receptor is also one of the principal molecular targets for alcohol in the CNS (Lovinger et al., 1989; Alvestad et al., 2003; Snell et al., 1996). The rat NMDAR1 (NR1) was the first subunit of the NMDAR to be cloned and it can form NMDA activated channels when expressed in *Xenopus* oocytes but the currents in such channels are much smaller than those seen *in situ*. Channels with more physiological characteristics are produced when the NR1 subunit is combined with one or more of the NMDAR2 (NR2 A-D) subunits. Overexpression of the NR2B-subunit of the NMDA receptor has been associated with increases in learning and memory while aged, memory impaired animals have deficiencies in NR2B expression (Clayton et al., 2002a; Clayton et al., 2002b). The NMDAR is also potentiated by protein phosphorylation (Lu et al., 1999).

Antigen: Fusion protein from the C-terminus of the NR2B subunit of rat NMDA receptor.

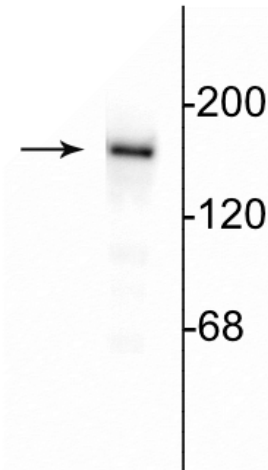
Antibody Specificity: Specific for endogenous levels of the ~180 kDa NR2B subunit of the NMDA receptor. Immunolabeling is blocked by pre-adsorption of antibody with the fusion protein used to generate the antibody. No reactivity towards the NR2A and NR2C subunits.

Purification Method: Prepared from pooled rabbit serum using a column to which the fusion protein immunogen was coupled.

Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of 10 µg of rat hippocampal lysate showing specific immunolabeling of the ~180 kDa NR2B subunit of the NMDA receptor.

Immunostaining of rabbit retina showing NR2A (green) in the rod and cone photoreceptors in the outer plexiform layer as well as the entire inner plexiform layer.

Application Key: WB = Western Blot IF = Immunofluorescence IHC = Immunohistochemistry IP = Immunoprecipitation

Species Reactivity Key: All-All Species A-Avian Amp-Amphibian Ar-Arabidopsis B-Bovine C-Canine Ch-Chicken D-Drosophila GP-Guinea Pig H-Human Ha-Hamster M-Mouse NHP-Non-human primate P-Pig R-Rat S-Sheep X-Xenopus Z-Zebrafish

*Species assumed based on 100% homology with sequence used as antigen

For Research Use Only

Product Specific References:

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Note: Dr. Michael Browning, a co-author of six of the cited papers, is President and founder of PhosphoSolutions.