Anti-NMDA Receptor, NR2B Subunit

Catalog Number: 1496-NR2B  Size: 100 µl

Product Description: Affinity purified rabbit polyclonal antibody

Applications: WB: 1:1000
IHC (frozen sections; unpublished observations): 1:1000 to 1:2000
IP: 3 µl per 200 µg lysate

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

Species Reactivity: The antibody has been directly tested for reactivity in Western blots with human, mouse and rat tissue.

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 (Lovingier 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).

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Western blot of 10 µg of rat hippocampal (Hipp) lysate showing specific immunolabeling of the ~180k NR2B subunit of the NMDA receptor.
Purification Method: Prepared from rabbit serum by affinity purification using a column to which the fusion protein immunogen was coupled.

Antibody Specificity: Specific for the ~180k NR2B subunit of the NMDA receptor. Recognizes human, mouse and rat forms of the NR2B subunits of NMDAR. 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.

Quality Control Tests: Western blots performed on each lot.

Product Specific References:

General References:

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