**Anti-NMDA Receptor, NR2A Subunit Antibody**

**Catalog #:** 1495-NR2A  
**Size:** 100 µl

<table>
<thead>
<tr>
<th>Host</th>
<th>Applications</th>
<th>Species Tested</th>
<th>Species Reactivity*</th>
<th>Molecular Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>WB  1:1000</td>
<td>M, H, R</td>
<td>~180 kDa</td>
<td></td>
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<td></td>
<td>IHC  1:1000 (frozen sections)</td>
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<td>IP  3 µl per 200 µg lysate</td>
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**Product Description:** Affinity purified rabbit polyclonal antibody.

**Biological Significance:** The ion channels activated by glutamate are typically divided into two classes. Glutamate receptors that are activated by kainate and α-amino-3-hydroxy-5-methyl-4-isoxalone propionic acid (AMPA) are known as kainate/AMPA receptors (K/AMPAR). Those 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; Wenthohl 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 NMDAR is also potentiated by protein phosphorylation (Lu et al., 1999). The rat NMDAR1 (NR1) was the first subunit of the NMDAR to be cloned. The NR1 protein 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.

**Antigen:** Fusion protein from the C-terminus of the NR2A subunit of rat NMDA receptor.

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

**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.

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

**Species Reactivity Key:**  
All = All Species  
A = Avian  
Amph = 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*
Product Specific References:


General References:


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