

#### DESCRIPTION

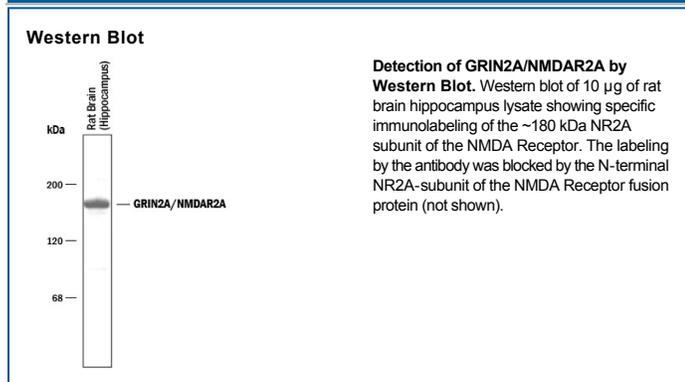
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Specific for the ~180 kDa NR2A subunit of the NMDA Receptor in Western blots of most brain regions. No reactivity towards the NR2B and NR2C subunits. Immunolabeling is blocked by pre-adsorption of antibody with the fusion protein used to generate the antibody.
<b>Source</b>	Polyclonal Rabbit IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Fusion protein from the C-terminus of the NR2A subunit of rat NMDA Receptor
<b>Formulation</b>	Lyophilized from 5 mM ammonium bicarbonate See Certificate of Analysis for details.

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1:1000 dilution	See Below
<b>Immunohistochemistry</b>	1:1000 to 1:2000 dilution	Frozen sections; unpublished observations
<b>Immunoprecipitation</b>	3 µL per 200 µg lysate	

#### DATA



#### PREPARATION AND STORAGE

<b>Reconstitution</b>	This antibody should be reconstituted in 50 µL phosphate buffered saline (137 mM NaCl, 7.5 mM Na2HPO4, 2.7 mM KCl, 1.5 mM KH2PO4, pH 7.4) before use.
<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	After reconstitution the antibody should be aliquoted and stored at ≤ -20° C. This product is stable at ≤ -20° C for at least 1 year.

#### BACKGROUND

NMDA (N-Methyl D-Aspartate) receptors are members of the glutamate receptor family of ligand-gated ion channels. The functional NMDA receptor (NMDAR) is a 650-850 kDa heteromultimer of at least two NR2 (NMDAR2) subunits and two NR1 subunits. NR2 subunits determine overall NMDAR characteristics such as conductance and Mg<sup>++</sup> sensitivity. In addition, NR2 subunits mediate NMDAR clustering and synaptic localization through cytoplasmic interaction with PSD-95/SAP90 family members. Upon glutamate binding to NR2, and glycine binding to NR1, the NMDA channel is opened, allowing calcium and sodium influx into the cell. There are four genes, which code for NR2 subunits (NR2A-D). The two (or three) NR2 subunits making up the NMDAR may be homodimers or heterodimers. The 2A form generates the highest conductance NMDAR. Rat NR2A is a 180 kDa, 1464 amino acid (aa), three transmembrane (TM) glycoprotein that contains a 533 aa extracellular domain (ECD) and a 627 aa cytoplasmic region. The molecule is described as 4-TM. However, the second-TM segment is only partial (or reentrant), and this makes the C-terminus intracellular. The loop connecting TM segments 3 and 4, plus the N-terminal ECD constitutes the glutamate binding site. Rat NR2 is 99% and 95% aa identical to mouse and human NR2, respectively.