

DESCRIPTION

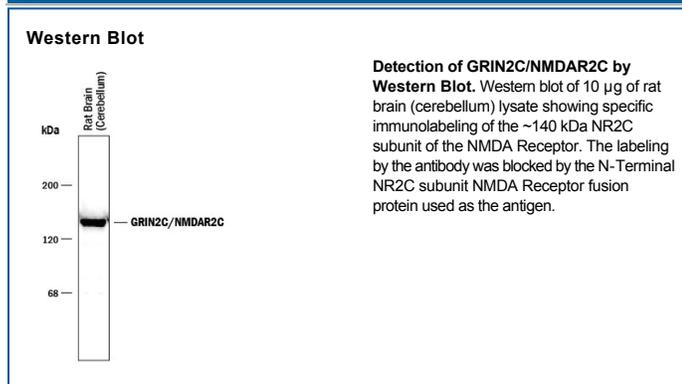
Species Reactivity	Human/Mouse/Rat
Specificity	Human, mouse, rat ~140 kDa NMDAR NR2C subunit
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Fusion protein from the NR2C subunit of the NMDA Receptor
Formulation	10 µg per vial; lyophilized in 5 mM ammonium bicarbonate. See 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.

	Recommended Concentration	Sample
Western Blot	1:1000 dilution	See Below
Immunoprecipitation	3 µL /200 µg lysate	

DATA



PREPARATION AND STORAGE

Reconstitution	This antibody should be reconstituted in 50 µL phosphate buffered saline (137 mM NaCl, 7.5 mM Na ₂ HPO ₄ , 2.7 mM KCl, 1.5 mM KH ₂ PO ₄ , pH 7.4) before use.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	The lyophilized product is stable at ≤ -20° C for at least 1 year. After reconstitution the antibody should be aliquoted and stored at ≤ -20° C.

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⁺⁺ 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 that code for NR2 subunits (NR2A-D). The two (or three) NR2 subunits making up the NMDAR may be homodimers or heterodimers. The 2C form generates a low conductance NMDAR. This receptor is particularly abundant in the cerebellum and thalamus. Rat NR2C is a 180 kDa, 1237 amino acid (aa), three transmembrane (TM) glycoprotein that contains a 535 aa extracellular domain (ECD) and a 401 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 likely constitute the glutamate binding site. Rat NR2C shares 97% and 88% aa sequence identity to mouse and human NR2C, respectively.

References:

- Stephenson, F.A. (2001) *Curr. Drug Targets* 2:233.
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- Prybylowski, K. and R.J. Wenthold (2004) *J. Biol. Chem.* 279:9673.
- Monyer, H. et al. (1992) *Science* 256:1217.