Human/Mouse/Rat GRIN2A/NMDAR2A Antibody

Antigen Affinity-purified Polyclonal Rabbit Serum
Catalog Number: PPS054

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Human, mouse, and rat ~180 kDa NMDA NR2A
Source	Polyclonal Rabbit Serum
Purification	Antigen Affinity-purified
Immunogen	NMDA R, NR2A Subunit
Formulation	50 µL of unpurified rabbit serum. See Certificate of Analysis for details.

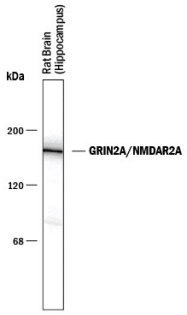
APPLICATIONS

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

DATA

Western Blot



Detection of GRIN2A/NMDAR2A by Western Blot. Western blot of rat hippocampal lysate showing specific immunolabeling of the approximately 180 kDa NR2A subunit of the NMDA Receptor.

PREPARATION AND STORAGE

Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	For long-term storage, ≤ -20° C is recommended. 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^{++} 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 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 reenterant), and this makes the C-terminus intracellular. The loop connecting TM segments 3 and 4, plus the N-terminal ECD constitute the glutamate binding site. Rat NR2 is 99% and 95% aa identical to mouse and human NR2, respectively.

References:

1. Stephenson, F.A. (2001) Curr. Drug Targets **2**:233.
2. Cull-candy, S.G. and D.N. Leszkiewicz (2004) Sci. STKE re16 (2004).
3. Prybylowski, K. and R.J. Wenthold (2004) J. Biol. Chem. **279**:9673.
4. Ishii, T. *et al.* (1993) J. Biol. Chem. **268**:2836.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956