

## Product datasheet for **TA328822**

### Grin2b Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	IHC, IP, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)NTHEKRIYQSNMLNR, corresponding to amino acid residues 323-337 of rat NMDA Receptor 2B . Extracellular, N-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.025% NaN <sub>3</sub> .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	glutamate ionotropic receptor NMDA type subunit 2B
Database Link:	<a href="#">NP_036706</a> <a href="#">Entrez Gene 2904 Human</a> <a href="#">Entrez Gene 14812 Mouse</a> <a href="#">Entrez Gene 24410 Rat</a> <a href="#">Q00960</a>



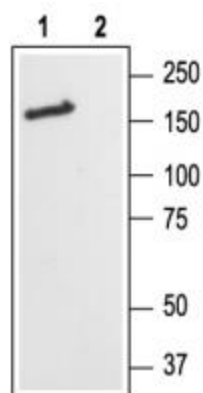
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**Background:**

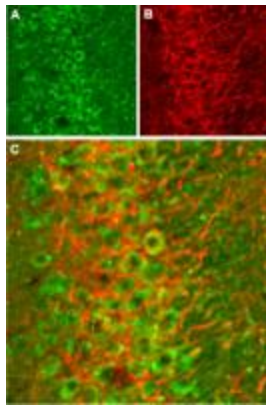
The NMDA receptors are members of the glutamate receptor family of ion channels that also include the AMPA and Kainate receptors. The NMDA receptors are encoded by seven genes: one NMDAR1 (or NR1) subunit, four NR2 (NR2A-NR2D) and two NR3 (NR3A-NR3B) subunits. The functional NMDA receptor appears to be a heterotetramer composed of two NMDAR1 and two NMDAR2 subunits. Whereas the NMDAR2 subunits that assemble with the NMDAR1 subunit can be either of the same kind (i.e. two NMDAR2A subunits) or different (one NMDAR2A with one NMDAR2B). NMDAR3 subunits can substitute the NMDAR2 subunits in their complex with the NMDAR1 subunit. The NMDAR is unique among ligand-gated ion channels in that it requires the simultaneous binding of two obligatory agonists: glycine and glutamate that bind to the NMDAR1 and NMDAR2 binding sites respectively. Another unique characteristic of the NMDA receptors is their dependence on membrane potential. At resting membrane potentials the channels are blocked by extracellular  $Mg^{2+}$ . Neuronal depolarization relieves the  $Mg^{2+}$  blockage and allows ion influx into the cells. NMDA receptors are strongly selective for  $Ca^{2+}$  influx differing from the other glutamate receptor ion channels that are non-selective cation channels.  $Ca^{2+}$  entry through the NMDAR regulates numerous downstream signaling pathways including long term potentiation (a molecular model of memory) and synaptic plasticity that may underlie learning. In addition, the NMDA receptors have been implicated in a variety of neurological disorders including epilepsy, ischemic brain damage, Parkinson's and Alzheimer's disease. NMDA receptors expression and function are modulated by a variety of factors including receptor trafficking to the synapses and internalization as well as phosphorylation and interaction with other intracellular proteins.

**Synonyms:**

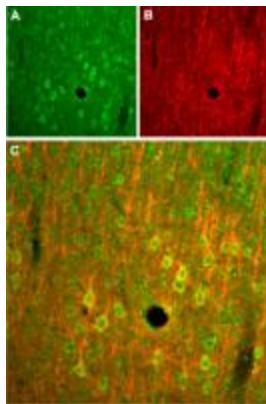
hNR3; MGC142178; MGC142180; NMDAR2B; NR2B; NR3

**Product images:**

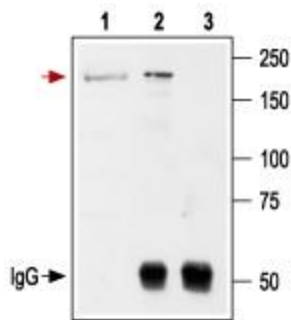
Western blot analysis of rat brain lysates: 1. Anti-NMDA Receptor 2B (GluN2B) (extracellular) antibody, (1:600). 2. Anti-NMDA Receptor 2B (GluN2B) (extracellular) antibody, preincubated with the control peptide antigen.



Expression of NMDA Receptor 2B in rat hippocampus. Immunohistochemical staining of rat hippocampal CA1 frozen sections stained with Anti-NMDA Receptor 2B (GluN2B) (extracellular) antibody, (1:100). A. NMDA Receptor 2B (green) appears in the pyramidal layer of CA1. B. Staining of neurofilament 200 (red) identifies neuronal processes. C. Confocal merge demonstrates localization of NMDA Receptor 2B in cells and not in processes.



Expression of NMDA Receptor 2B in rat cortex. Immunohistochemical staining of rat parietal cortex frozen sections stained with Anti-NMDA Receptor 2B (GluN2B) (extracellular) antibody, (1:100). A. NMDA Receptor 2B (green) appears in the pyramidal layer of layer 5. B. Staining of neurofilament 200 (red) identifies neuronal processes. C. Confocal merge demonstrates localization of NMDA Receptor 2B in cells.



Immunoprecipitation of rat brain lysates: 1. Cell lysates. 2. Cell lysates + protein A beads + Anti-NMDA Receptor 2B (GluN2B) (extracellular) antibody. 3. Cell lysates + protein A beads + pre-immune rabbit serum. Red arrow indicates the NMDA Receptor 2B protein while the black arrow shows the IgG heavy chain. Immunoblot was performed with Anti-NMDA Receptor 2B (GluN2B) (extracellular) antibody.