

Product datasheet for **TA328820**

Grin1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide ETEKPRGYQMSTRLK(C), corresponding to amino acid residues 385-399 of rat NMDA Receptor 1. 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, 0.05% NaN ₃ .
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 1
Database Link:	NP_058706 Entrez Gene 2902 Human Entrez Gene 14810 Mouse Entrez Gene 24408 Rat P35439



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Background:

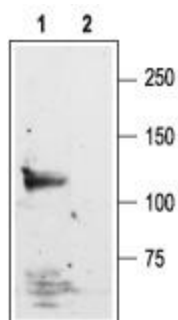
The NMDA receptors are members of the glutamate receptor family of ion channels that also include the AMPA and Kainate receptors. The NMDA receptors are encoded by seven genes: one NMDAR1 (or NR1) subunit, four NR2 (NR2A-NR2D) and two NR3 (NR3A-NR3B) subunits. The functional NMDA receptor appears to 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 Mg²⁺. Neuronal depolarization relieves the Mg²⁺ blockage and allows ion influx into the cells. NMDA receptors are strongly selective for Ca²⁺ influx differing from the other glutamate receptor ion channels that are non-selective cation channels. Ca²⁺ 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:

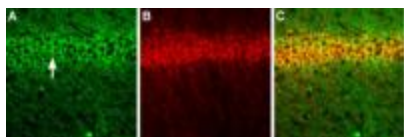
NMDA1; NMDAR1; NR1

Note:

This antibody was tested in live cell imaging. Please see IF/ICC data for detail.

Product images:

Western blot analysis of rat brain lysate: 1. Anti-NMDA Receptor 1 (GluN1) (extracellular) antibody, (1:600). 2. Anti-NMDA Receptor 1 (GluN1) (extracellular) antibody, preincubated with the control peptide antigen.



IHC staining of mouse brain sections using Anti-GluN1 (extracellular) antibody (1:200) and Anti-CALHM1 antibody (1:60). A. Sections were stained with Anti-NMDA Receptor 1 (GluN1) (extracellular) antibody, followed by goat-anti-rabbit-Cy2 (green). Staining reveals expression in neurons of the pyramidal layer. B. The same section was incubated with Anti-CALHM1 antibody, (red). C. Merge of the two images demonstrates colocalization of GluN1 and CALHM1 in pyramidal neurons.