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Product datasheet for TA328836

Grin2d 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:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide CRTQNRTHRGESLHR, corresponding to amino acid residues 345-359 of rat NMDAR2D. 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% NaN3.
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 2D
Database Link:	NP_073634 Entrez Gene 14814 MouseEntrez Gene 24412 Rat Q62645

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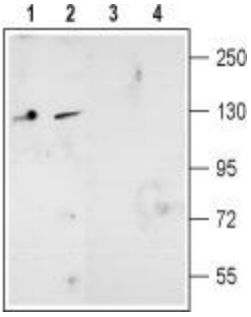
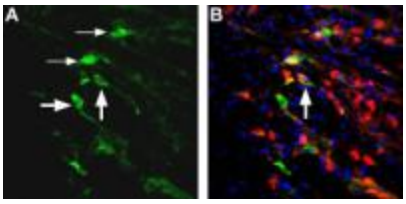
Background: The NMDA receptors (NMDARs) are members of the glutamate receptor family of ion channels that also include the AMPA and Kainate receptors. The NMDA receptors are encoded by seven genes: one NMDAR1 (or NR1) subunit, four NR2 (NR2A-NR2D) and two NR3 (NR3A-NR3B) subunits. The functional NMDA 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, Parkinsonâ??s and Alzheimerâ??s disease. The expression and function of NMDA receptors 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: EB11; NMDAR2D; NR2D

Product images:



Western blot analysis of mouse (lanes 1 and 3) and rat (lanes 2 and 4) brain membranes: 1. Anti-NMDA Receptor 2D (GluN2D) (extracellular) antibody, (1:200). 2. Anti-NMDA Receptor 2D (GluN2D) (extracellular) antibody, preincubated with the control peptide antigen.



IHC staining of immersion-fixed, free floating rat brain frozen sections using Anti-NMDA Receptor 2D (GluN2D) (extracellular) antibody, (1:200). A. Staining (green) appears in a discreet population of cells (thin arrows). B. The same section was stained for parvalbumin (red) and cell nuclei were visualized with DAPI (blue). Cells positive for NMDAR2D but negative for parvalbumin (thick arrow, shown in A) and cells positive for both NMDAR2D and parvalbumin (vertical arrow) are both present.