10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NMDAR1 Rabbit mAb

Catalog # AP76869

Product Information

Application	WB
Primary Accession	Q05586
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	105373

Additional Information

Gene ID	2902
Other Names	GRIN1
Dilution	WB~~1:1000
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	GRIN1 (HGNC:4584)
Function	Component of N-methyl-D-aspartate (NMDA) receptors (NMDARs) that function as heterotetrameric, ligand-gated cation channels with high calcium permeability and voltage-dependent block by Mg(2+) (PubMed:21376300, PubMed:26875626, PubMed:26919761, PubMed:28126851, PubMed:28228639, PubMed:36959261, PubMed:7679115, PubMed:7681588, PubMed:7685113). NMDARs participate in synaptic plasticity for learning and memory formation by contributing to the long-term potentiation (LTP) (PubMed:26875626). Channel activation requires binding of the neurotransmitter L-glutamate to the GluN2 subunit, glycine or D-serine binding to the GluN1 subunit, plus membrane depolarization to eliminate channel inhibition by Mg(2+) (PubMed:21376300, PubMed:26875626, PubMed:26919761, PubMed:27164704, PubMed:28095420, PubMed:28105280, PubMed:28126851, PubMed:28228639, PubMed:36959261, PubMed:38538865, PubMed:7679115, PubMed:7681588, PubMed:7685113). NMDARs mediate simultaneously the potassium efflux and

	the influx of calcium and sodium (By similarity). Each GluN2 or GluN3 subunit confers differential attributes to channel properties, including activation, deactivation and desensitization kinetics, pH sensitivity, Ca2(+) permeability, and binding to allosteric modulators (PubMed:26875626, PubMed:26919761, PubMed:36309015, PubMed:38598639).
Cellular Location	Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P35439}. Postsynaptic cell membrane {ECO:0000250|UniProtKB:P35438}. Postsynaptic density membrane {ECO:0000250|UniProtKB:P35439}. Synaptic cell membrane {ECO:0000250|UniProtKB:P35438}. Note=Synaptic cell membrane targeting is dependent of GRIN2B/GluN2B subunit (By similarity). Association with GRIN3A occurs in the endoplasmic reticulum (By similarity) {ECO:0000250, ECO:0000250|UniProtKB:P35438, ECO:0000250|UniProtKB:P35439}

Background

N-methyl-D-aspartate receptor (NMDAR) forms a heterodimer of at least one NR1 and one NR2A-D subunit. Multiple receptor isoforms with distinct brain distributions and functional properties arise by selective splicing of the NR1 transcripts and differential expression of the NR2 subunits.

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