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

Anti-NMDAR1 Antibody

Catalog # ABO10600

Product Information

Application	WB, IHC-P
Primary Accession	Q05586
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Glutamate receptor ionotropic, NMDA 1(GRIN1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2902
Other Names	Glutamate receptor ionotropic, NMDA 1, GluN1, Glutamate [NMDA] receptor subunit zeta-1, N-methyl-D-aspartate receptor subunit NR1, NMD-R1, GRIN1, NMDAR1
Calculated MW	105373
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, Mouse, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Cell membrane ; Multi-pass membrane protein . Cell junction, synapse, postsynaptic cell membrane . Cell junction, synapse, postsynaptic cell membrane, postsynaptic density . Enriched in postsynaptic plasma membrane and postsynaptic densities. .
Source	Eukaryota
Protein Name	Glutamate receptor ionotropic, NMDA 1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human NMDAR1(36-53aa RKHEQMFREAVNQANKRH), identical to the related rat and mouse sequences.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the glutamate-gated ion channel (TC 1.A.10.1) family. NR1/GRIN1 subfamily.

Protein Information

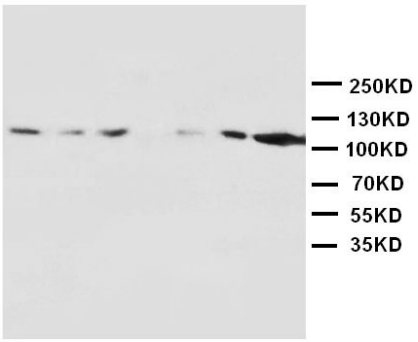
Name	GRIN1 (HGNC:4584)
Function	Component of N-methyl-D-aspartate (NMDA) receptors (NMDARs) that function as heterotetrameric, ligand-gated cation channels with high calcium permeability and voltage-dependent block by Mg(2+) (PubMed:21376300, PubMed:26875626, PubMed:26919761, PubMed:28126851, PubMed:28228639, 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

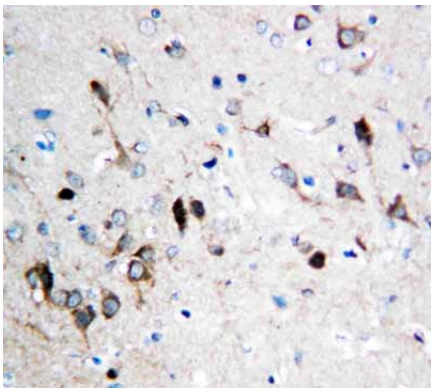
Glutamate [NMDA] receptor subunit zeta-1 is a protein that in humans is encoded by the GRIN1 gene. The protein encoded by this gene is a critical subunit of N-methyl-D-aspartate receptors, members of the glutamate receptor channel superfamily which are heteromeric protein complexes with multiple subunits arranged to form a ligand-gated ion channel. These subunits play a key role in the plasticity of synapses, which is believed to underlie memory and learning. Cell-specific factors are thought to control expression of different isoforms, possibly contributing to the functional diversity of the subunits. Alternatively spliced transcript variants have been described.

Images

Anti-NMDAR1 antibody, ABO10600, Western blottingLane



1: Rat Brain Tissue LysateLane 2: Rat Brain Tissue LysateLane 3: Rat Liver Tissue LysateLane 4: Rat Heart Tissue LysateLane 5: MM453 Cell LysateLane 6: MM231 Cell LysateLane 7: HELA Cell Lysate



Anti-NMDAR1 antibody, ABO10600, IHC(P)IHC(P): Rat Brain Tissue

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.