

Rabbit anti-Rat NMDA NR2A Subunit, N-terminus Polyclonal Antibody | anti-GRIN2A antibody

Anti-NMDA Receptor, NR2A Subunit N-terminus

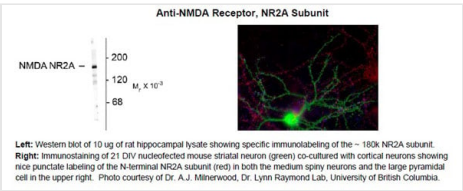
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA72795	Rabbit	Rat	Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

NMDA NR2A Subunit; N-terminus; Polyclonal Antibody; Anti-NMDA Receptor; NR2A Subunit N-terminus; anti-GRIN2A antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Rat
Clonality	Polyclonal
Specificity	Specific for the ~180k NR2A subunit of the NMDA receptor.
Purity/Purification	Affinity Purified (Prepared from rabbit serum by affinity purification using a column to which the peptide immunogen was coupled.)
Form/Format	Packaging: 100 ul antibody vial in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 ug BSA per ml and 50% glycerol. Adequate amount of material to conduct 10-mini Western Blots.
Sequence Length	1464
Applicable Applications for anti-GRIN2A antibody	IHC (Immunohistochemistry), WB (Western Blot)
Antigen	Peptide from the N-terminus of the NR2A subunit of rat NMDA receptor
Immunogen Information	Synthetic peptide corresponding to amino acid residues from the N-terminal region of the NR2A subunit conjugated to KLH
Immunogen Species	Rat
Reactivity Assumed Based on 100% Sequence Homology	Bovine, canine, mouse
Species Reactivity Note	The antibody has been directly tested for reactivity in Western blots rat tissue. It is anticipated that the antibody will also react with bovine, canine, and mouse tissues based on the fact that these species have 100% homology with the amino acid sequence used as antigen.
Biological Significance	The ion channels activated by glutamate are typically divided into two classes. Glutamate receptors that are activated by kainate and alpha-amino-3-hydroxy-5-methyl-4-isoxalone propionic acid (AMPA) are known as kainate/AMPA receptors (K/AMPA). Those that are sensitive to N-methyl-D-aspartate (NMDA) are designated NMDA receptors (NMDAR). The NMDAR plays an essential role in memory, neuronal development and it has also been implicated in several disorders of the central nervous system including Alzheimer's, epilepsy and ischemic neuronal cell death (Grosshans et al., 2002; Wenthold et al., 2003; Carroll and Zukin, 2002). The NMDA receptor is also one of the principal molecular targets for alcohol in the CNS (Lovinger et al., 1989; Alvestad et al., 2003; Snell et al., 1996). The NMDAR is also potentiated by protein phosphorylation (Lu et al., 1999). The rat NMDAR1 (NR1) was the first subunit of the NMDAR to be cloned. The NR1 protein can form NMDA activated channels when expressed in Xenopus oocytes but the currents in such channels are much smaller than those seen in situ. Channels with more physiological characteristics are produced when the NR1 subunit is combined with one or more of the NMDAR2 (NR2 A-D) subunits.
Preparation and Storage	Store at -20 degree C; stable for at least 1 year



Application Data

ADDITIONAL INFORMATION

Related Product Information for anti-GRIN2A antibody	Affinity purified rabbit polyclonal antibody
References	• Alvestad RM, Grosshans DR, Coultrap SJ, Nakazawa T, Yamamoto T, Browning MD (2003) Tyrosine dephosphorylation and ethanol inhibition of N-methyl-D-aspartate receptor function. J Biol Chem 278:11020-11025 • Carroll RC, Zukin RS (2002) NMDA-receptor trafficking and targeting: implications for synaptic transmission and plasticity. Trends Neurosci 25:571-577. • Grosshans DR, Clayton DA, Coultrap SJ, Browning MD (2002) LTP leads to rapid surface expression of NMDA but not AMPA receptors in adult rat CA1. Nat Neurosci 5:27-33. • Lovinger DM, White G, Weight FF (1989) Ethanol inhibits NMDA-activated ion current in hippocampal neurons. Science 243:1721-1724. • Lu W-Y, Xiong Z-G, Lei S, Orser BA, Browning MD, MacDonald JF (1999) G-protein coupled receptors act via protein kinase C and Src to regulate NMDA receptors. Nature Neurosci 2:331-338.

NCBI AND UNIPROT INFORMATION

NCBI GI #	140971205
NCBI GeneID	24409
NCBI Accession #	NP_036705.3
NCBI GenBank Nucleotide #	NM_012573.3
UniProt Accession #	Q00959; O08948; Q63728
Molecular Weight	180
NCBI Official Full Name	glutamate receptor ionotropic, NMDA 2A
NCBI Official Synonym Full Names	glutamate receptor, ionotropic, N-methyl D-aspartate 2A
NCBI Official Symbol	Grin2a
NCBI Official Synonym Symbols	NR2A; GluN2A; NMDAR2A
NCBI Protein Information	glutamate receptor ionotropic, NMDA 2A; N-methyl D-aspartate receptor subtype 2A; N-methyl-D-aspartate receptor subunit 2A; glutamate [NMDA] receptor subunit epsilon-1
UniProt Protein Name	Glutamate receptor ionotropic, NMDA 2A
UniProt Gene Name	Grin2a
UniProt Synonym Gene Names	GluN2A; NMDAR2A; NR2A
UniProt Entry Name	NMDE1_RAT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.