

Rabbit NMDA NR2A Subunit (Tyr1325) Polyclonal Antibody | anti-GRIN2A antibody

Anti-Phospho-Tyr1325 NMDA NR2A-Subunit

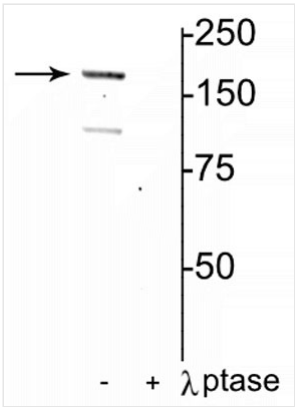
CATALOG # AAA72811	HOST Rabbit	REACTIVITY Human, Mouse, Rat	APPLICATIONS Western Blot
------------------------------	-----------------------	--	-------------------------------------

PRODUCT SYNONYMS

NMDA NR2A Subunit (Tyr1325); Polyclonal Antibody; Anti-Phospho-Tyr1325 NMDA NR2A-Subunit; anti-GRIN2A antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Specificity	Specific for the ~180k NMDAR NR2A-subunit protein phosphorylated at Tyr1325 in Western blots. Immunolabeling is completely blocked by blocked by the phosphopeptide used as the antigen but not by the corresponding dephosphopeptide.
Purity/Purification	Affinity Purified (Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.)
Form/Format	100 ul in 150 mM NaCl, 10mM HEPES, 100ug per ml BSA and 50% glycerol, pH 7.5. Adequate amount of material to conduct 10 mini western blots.
Sequence Length	1464
Applicable Applications for anti-GRIN2A antibody	WB (Western Blot)
Antigen	Phosphopeptide corresponding to amino acid residues surrounding the phospho-Tyr1325 of rat NMDA NR2A.
Immunogen Information	Synthetic phospho-peptide corresponding to amino acid residues surrounding Tyr1325 conjugated to KLH
Quality Control	Western blots performed on each lot
Immunogen Species	Rat
Predicted Species Reactivity	Bovine, Canine, Hamster, Sheep. Predicted species reactivity is based on 100% homology with sequence used as antigen.
Species Reactivity Note	The antibody has been directly tested for reactivity in Western blots with human, mouse and rat tissues. It is anticipated that the antibody will react with bovine and canine 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 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). Channels with physiological characteristics are produced when the NR1 subunit is combined with one or more of the NMDAR2 (NR2 A-D) subunits (Ishii et al., 1993). Recently, phosphorylation of Tyrosine 1325 of the NR2A subunit has been shown to be increased in human brain tissue sections from HIV-infected individuals with encephalitis (King et al., 2010). In addition, Tyr1325 phosphorylation has been linked with depression-related behavior (Taniguchi et al., 2009).
Preparation and Storage	Store at -20 degree C in undiluted aliquots; stable for at least one year after date of receipt. Avoid freeze/thaw cycles.



WB (Western Blot)
Western blot of rat hippocampal lysate showing specific immuno labeling of the ~180 kDa NR2A subunit of the NMDAR phosphorylated at Tyr1325 in the first lane (-). Phospho specificity is shown a in the second lane (+) where immuno labeling is completely eliminated by lysate treatment with lambda phosphatase (400 units/100uL lysate for 30 min).

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. • Ishii T, Moriyoshi K, Sugihara H, Sakurada K, Kadotani H, Yokoi M, Akazawa C, Shigemoto R, Mizuno N, Masu M, Nakanishi S (1993) Molecular characterization of the family of the N-methyl- D-aspartate receptor subunits. J Biol Chem 268:2836-2843. • Lovinger DM, White G, Weight FF (1989) Ethanol inhibits NMDA-activated ion current in hippocampal neurons. Science 243:1721-1724. • Snell LD, Nunley KR, Lickteig RL, Browning MD, Tabakoff B, Hoffman PL (1996) Regional and subunit specific changes in NMDA receptor mRNA and immunoreactivity in mouse brain following chronic ethanol ingestion. Mol Brain Res 40:71-78. • Wenthold RJ, Prybylowski K, Standley S, Sans N, Petralia RS (2003) Trafficking of NMDA receptors. Annu Rev Pharmacol Toxicol 43:335-358. • King JE, Eugenin EA, Hazleton JE, Morgello S, Berman JW (2010) Mechanisms of HIV-tat-induced phosphorylation of N-methyl-D-aspartate receptor subunit 2A in human primary neurons: implications for neuroAIDS pathogenesis. Am J Pathol. 176(6):2819-30. • Taniguchi S, Nakazawa T, Tanimura A, Kiyama Y, Tezuka T, Watabe AM, Katayama N, Yokoyama K, Inoue T, Izumi-Nakaseko H, Kakuta S, Sudo K, Iwakura Y, Umemori H, Inoue T, Murphy NP, Hashimoto K, Kano M, Manabe T, Yamamoto T. (2009) Involvement of NMDAR2A tyrosine phosphorylation in depression-related behaviour. EMBO J. 28(23):3717-29.

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 kDa
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.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/polyclonal/nmda-nr2a-subunit-tyr1325-antibody-western-blot-elisa/72811>