

Goat Anti-NMDAR2B / GRIN2B Antibody
Peptide-affinity purified goat antibody
Catalog # AF1736a**Specification**

Goat Anti-NMDAR2B / GRIN2B Antibody - Product Information

Application	WB, IF, Pep-ELISA
Primary Accession	Q13224
Other Accession	NP_000825 , 2904 , 14812 (mouse) , 24410 (rat)
Reactivity	Rat
Predicted	Human, Mouse, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	166367

Goat Anti-NMDAR2B / GRIN2B Antibody - Additional Information**Gene ID** 2904**Other Names**

Glutamate receptor ionotropic, NMDA 2B, GluN2B, Glutamate [NMDA] receptor subunit epsilon-2, N-methyl D-aspartate receptor subtype 2B, NMDAR2B, NR2B, N-methyl-D-aspartate receptor subunit 3, NR3, hNR3, GRIN2B, NMDAR2B

Dilution

WB~~1:1000
IF~~1:50~200
Pep-ELISA~~N/A

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Goat Anti-NMDAR2B / GRIN2B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-NMDAR2B / GRIN2B Antibody - Protein Information**Name** GRIN2B {ECO:0000303|Ref.3, ECO:0000312|HGNC:HGNC:4586}

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:24272827, PubMed:24863970, PubMed:26875626, PubMed:26919761, PubMed:27839871, PubMed:28095420, PubMed:28126851, PubMed:38538865, PubMed:8768735). Participates in synaptic plasticity for learning and memory formation by contributing to the long-term depression (LTD) of hippocampus membrane currents (By similarity). 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:24272827, PubMed:24863970, PubMed:26875626, PubMed:26919761, PubMed:27839871, PubMed:28095420, PubMed:28126851, PubMed:38538865, PubMed:8768735). NMDARs mediate simultaneously the potassium efflux and the influx of calcium and sodium (By similarity). Each GluN2 subunit confers differential attributes to channel properties, including activation, deactivation and desensitization kinetics, pH sensitivity, Ca^{2+} permeability, and binding to allosteric modulators (PubMed:26875626, PubMed:28095420, PubMed:28126851, PubMed:38538865, PubMed:8768735). In concert with DAPK1 at extrasynaptic sites, acts as a central mediator for stroke damage. Its phosphorylation at Ser-1303 by DAPK1 enhances synaptic NMDA receptor channel activity inducing injurious Ca^{2+} influx through them, resulting in an irreversible neuronal death (By similarity).

Cellular Location

Cell membrane; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q00960}; Multi-pass membrane protein. Cell projection, dendrite. Late endosome {ECO:0000250|UniProtKB:Q01097}. Lysosome {ECO:0000250|UniProtKB:Q01097}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:Q01097}. Note=Co-localizes with the motor protein KIF17 along microtubules. {ECO:0000250|UniProtKB:Q01097}

Tissue Location

Primarily found in the fronto-parieto-temporal cortex and hippocampus pyramidal cells, lower expression in the basal ganglia.

Goat Anti-NMDAR2B / GRIN2B Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

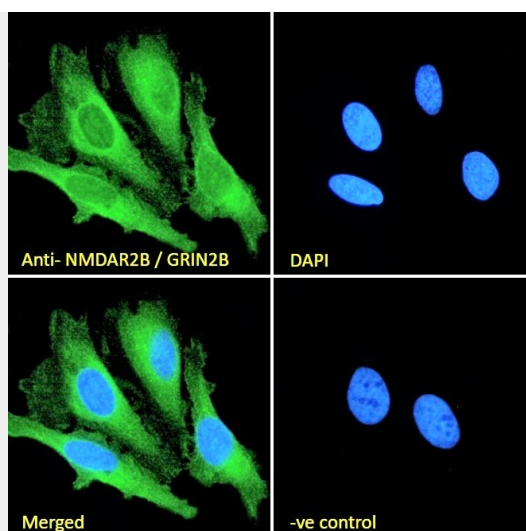
Goat Anti-NMDAR2B / GRIN2B Antibody - Images



AF1736a (2 µg/ml) staining of Rat Brain lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



EB07294 (2µg/ml) staining of Rat Brain lysate (35µg protein in RIPA buffer). Detected by chemiluminescence.



EB07294 Immunofluorescence analysis of paraformaldehyde fixed HeLa cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing cytoskeleton and cytoplasmic staining. The nuclear

Goat Anti-NMDAR2B / GRIN2B Antibody - Background

N-methyl-D-aspartate (NMDA) receptors are a class of ionotropic glutamate receptors. NMDA receptor channel has been shown to be involved in long-term potentiation, an activity-dependent increase in the efficiency of synaptic transmission thought to underlie certain kinds of memory and learning. NMDA receptor channels are heteromers composed of three different subunits: NR1 (GRIN1), NR2 (GRIN2A, GRIN2B, GRIN2C, or GRIN2D) and NR3 (GRIN3A or GRIN3B). The NR2 subunit acts as the agonist binding site for glutamate. This receptor is the predominant excitatory neurotransmitter receptor in the mammalian brain.

Goat Anti-NMDAR2B / GRIN2B Antibody - References

Positive association between GRIN2B gene and bipolar disorder in the Chinese Han Population. Zhao Q, et al. Psychiatry Res, 2010 May 25. PMID 20537720.
Association study of 182 candidate genes in anorexia nervosa. Pinheiro AP, et al. Am J Med Genet B Neuropsychiatr Genet, 2010 Jul. PMID 20468064.
Association analysis between 12 genetic variants of ten genes and personality traits in a young chinese han population. Gong P, et al. J Mol Neurosci, 2010 Sep. PMID 20464528.
Association analysis of GRIN1 and GRIN2B polymorphisms and Parkinson's disease in a hospital-based case-control study. Wu SL, et al. Neurosci Lett, 2010 Jul 5. PMID 20438806.
Novel approach to probe subunit-specific contributions to N-methyl-D-aspartate (NMDA) receptor trafficking reveals a dominant role for NR2B in receptor recycling. Tang TT, et al. J Biol Chem, 2010 Jul 2. PMID 20427279.