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

Goat Anti-NMDA receptor 1 / GRIN1 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1735a

Specification

Goat Anti-NMDA receptor 1 / GRIN1 Antibody - Product Information

Application	**IF, Pep-ELISA**
Primary Accession	Q05586
Other Accession	NP_015566, 2902, 14810 (mouse), 24408 (rat)
Reactivity	**Rat**
Predicted	**Human, Mouse, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**105373**

Goat Anti-NMDA receptor 1 / GRIN1 Antibody - 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

Dilution
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-NMDA receptor 1 / GRIN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-NMDA receptor 1 / GRIN1 Antibody - 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 potasium 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}

Goat Anti-NMDA receptor 1 / GRIN1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

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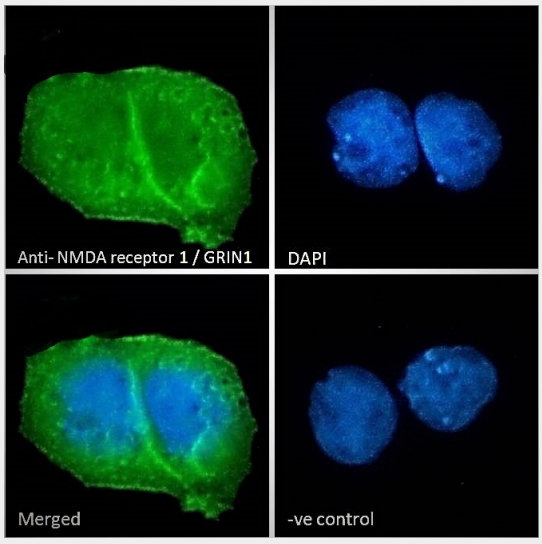
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-NMDA receptor 1 / GRIN1 Antibody - Images

AF1735a (2 µg/ml) staining of Rat Brain lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



EB07341 Immunofluorescence analysis of paraformaldehyde fixed MCF7 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing plasma membrane and cytoplasmic staining. The nuc

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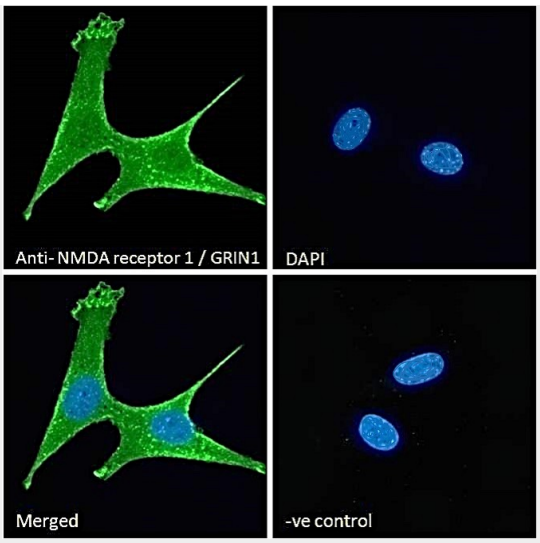

EB07341 Immunofluorescence analysis of paraformaldehyde fixed NIH3T3 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing plasma membrane and cytoplasmic staining. The nu

Goat Anti-NMDA receptor 1 / GRIN1 Antibody - Background

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.

Goat Anti-NMDA receptor 1 / GRIN1 Antibody - References

A possible association of responsiveness to adrenocorticotropic hormone with specific GRIN1 haplotypes in infantile spasms. Ding YX, et al. Dev Med Child Neurol, 2010 Aug 16. PMID 20722663.
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 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.
New genetic associations detected in a host response study to hepatitis B vaccine. Davila S, et al. Genes Immun, 2010 Apr. PMID 20237496.
A peripheral neuroimmune link: glutamate agonists upregulate NMDA NR1 receptor mRNA and protein, vimentin, TNF-alpha, and RANTES in cultured human synoviocytes. McNearney TA, et al. Am J Physiol Regul Integr Comp Physiol, 2010 Mar. PMID 20007519.