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

NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert Antibody

Affinity purified rabbit polyclonal antibody
Catalog # AN1053

Specification

NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert Antibody - Product Information

Application	**WB**
Primary Accession	P35439
Reactivity	**Mouse, Rat**
Predicted	**Human**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**120 KDa**

NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert Antibody - Additional Information

Gene ID	**24408**
Gene Name	**GRIN1**

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

Target/Specificity
Synthetic peptide corresponding to amino acid residues specific to the NR1 subunit, C2 splice variant insert conjugated to KLH.

Dilution
WB~~ 1:1000

Format
Prepared from rabbit serum by affinity purification using a column to which the peptide immunogen was coupled.

Antibody Specificity
Specific for the ~120k NR1 subunit of the NMDA Receptor containing the C2 splice variant insert. Does not recognize the NR1 subunits of the NMDA receptor that do not contain the C2 insert.

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
NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

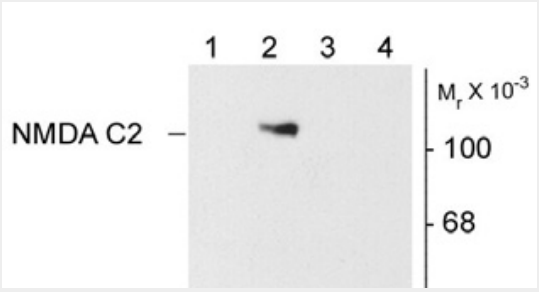
10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert 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 Cytomety
- Cell Culture

NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert Antibody - Images



Western blot of 10 ug of HEK 293 cells showing specific immunolabeling of the ~120k NR1 subunit of the NMDA receptor containing the C2 splice variant insert. Lane 1 - HEK cells without NR1 expression; Lane 2 - NR1 subunit containing only the C2 Insert; Lane 3 - NR1 subunit containing the C1 and C2' insert; Lane 4 - NR1 subunit containing the N1 and C2' insert.

NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert Antibody - Background

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). There are a number of different splice variants of the NR1 subunit (Foldes et al., 1994; Zukin and Bennett, 1995). Differential splicing of three exons in the NR1 subunit generates up to eight NR1 subunit splice variants and 7 of these have been identified in cDNA libraries. These exons encode a 21 amino acid N-terminal domain (N1) and adjacent sequences in the C-terminus (C1 and C2). Splicing out the C2 cassette eliminates the first stop codon and produces a new reading frame that generates a new sequence of 22 amino acids (C2'). Considerable attention has been focused on the distribution and expression of these splice variants that may affect the functional properties and regulation of the NMDAR.

NMDA Receptor, NR1 Subunit, C2 Splice Variant Insert Antibody - References

Carroll RC, Zukin RS (2002) NMDA-receptor trafficking and targeting: implications for synaptic transmission and plasticity. Trends Neurosci 25:571-577.
Foldes RL, Rampersad V, Kamboj RK (1994) Cloning and sequence analysis of additional splice variants encoding human N-methyl-D-aspartate receptor (hNR1) subunits. Gene 147:303-304.
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.
Wenthold RJ, Prybylowski K, Standley S, Sans N, Petralia RS (2003) Trafficking of NMDA receptors. Annu Rev Pharmacol Toxicol 43:335-358.
Zukin RS, Bennett MVL (1995) Alternatively spliced isoforms of the NMDARI receptor subunit.

Trends Neurosci 18:306-313.
Mannie M. Y. Fan, Herman B. Fernandes, Lily Y. J. Zhang, Michael R. Hayden, and Lynn A. Raymond (2007) Altered NMDA Receptor Trafficking in a Yeast Artificial Chromosome Transgenic Mouse Model of Huntington's DiseaseJ. Neurosci., 27: 3768 - 3779.
Note: Dr. Michael Browning, a co-author of one of the cited papers, is President and founder of PhosphoSolutions.