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Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody
Affinity purified rabbit polyclonal antibody
Catalog # AN1077

Specification

Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody - Product Information

Application	**IHC, WB**
Primary Accession	Q00960
Reactivity	**Rat**
Predicted	**Bovine, Chicken, Human, Mouse, Monkey, Zebrafish**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**180 KDa**

Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody - Additional Information

Gene ID	**24410**
Gene Name	**GRIN2B**

Other Names
Glutamate receptor ionotropic, NMDA 2B, GluN2B, Glutamate [NMDA] receptor subunit epsilon-2, N-methyl D-aspartate receptor subtype 2B, NMDAR2B, NR2B, Grin2b

Target/Specificity
Synthetic phospho-peptide corresponding to amino acid residues surrounding Tyr1252 conjugated to KLH.

Dilution
IHC~~ 1:400
WB~~ 1:1000

Format
Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Antibody Specificity
Specific for ~180k NMDAR NR2B subunit protein phosphorylated at Tyr1252. Immunolabeling of the NMDA NR2B subunit band is blocked by the phosphopeptide used as the antigen but not by the corresponding dephosphopeptide. Immunolabeling is also blocked by λ-phosphatase treatment. The antibody may also show some slight reactivity with Tyr1246 of NR2A.

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
Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping

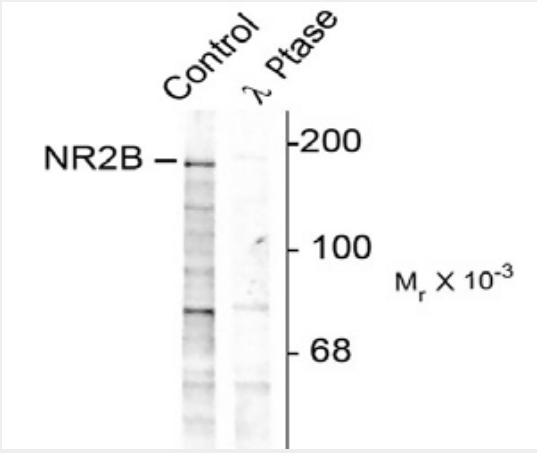
Blue Ice

Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody - Protocols

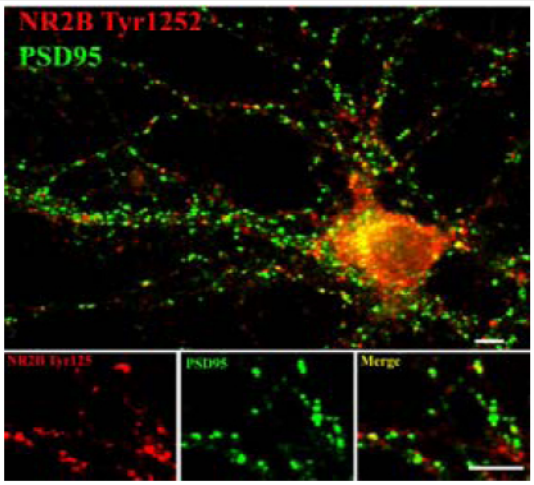
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody - Images



Western blot of rat hippocampal lysate showing specific immunolabeling of the ~180k NR2B subunit phosphorylated at Tyr1252 (Control). Phosphospecificity is shown in the second lane (lambda-phosphatase: λ-Ptase). The blot is identical to the control except that it was incubated in λ-Ptase (1200 units for 30 min) before being exposed to the phospho-Tyr1252 NMDA NR2B subunit antibody. The immunolabeling is completely eliminated by treatment with λ-Ptase.



Immunostaining of 14 DIV rat cortical neurons showing NR2B phosphorylated at Tyr1252 in red

and PSD95 in green.

Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody - Background

The NMDA receptor (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 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 (Ishii et al., 1993). Phosphorylation of Tyr1252 is thought to potentiate NMDA receptor-dependent influx of calcium (Takasu et al., 2002).

Phospho-Tyr1252 NMDA Receptor NR2B Subunit Antibody - References

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.
Takasu, MA, Dalva, MB, Zigmond, RE, Greenberg, ME (2002) Modulation of NMDA Receptor -Dependent Calcium Influx and Gene Expression Through EphB Receptors. Science 295:491-495.
Wenthold RJ, Prybylowski K, Standley S, Sans N, Petralia RS (2003) Trafficking of NMDA receptors. Annu Rev Pharmacol Toxicol 43:335-358.
Tianna R. Hicklin, Peter H. Wu, Richard A. Radcliffe, Ronald K. Freund, Susan M. Goebel-Goody, Paulo R. Correa, William R. Proctor, Paul J. Lombroso, and Michael D. Browning (2011) Alcohol inhibition of the NMDA receptor function, long-term potentiation, and fear learning requires striatal-enriched protein tyrosine phosphatase PNAS, Apr 2011; 108: 6650 - 6655.