

Phospho-Tyr1325 NMDA NR2A-Subunit Antibody
Affinity purified rabbit polyclonal antibody
Catalog # AN1203**Specification**

Phospho-Tyr1325 NMDA NR2A-Subunit Antibody - Product Information

Application	WB, FC
Primary Accession	Q00959
Reactivity	Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	180 KDa

Phospho-Tyr1325 NMDA NR2A-Subunit Antibody - Additional Information

Gene ID	24409
Gene Name	GRIN2A

Other Names

Glutamate receptor ionotropic, NMDA 2A, GluN2A, Glutamate [NMDA] receptor subunit epsilon-1, N-methyl D-aspartate receptor subtype 2A, NMDAR2A, NR2A, Grin2a

Target/Specificity

Synthetic phospho-peptide corresponding to amino acid residues surrounding Tyr1325 conjugated to KLH.

Dilution

WB~~ 1:1000

FC~~1:500

Format

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

Antibody 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.

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-Tyr1325 NMDA NR2A-Subunit Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping

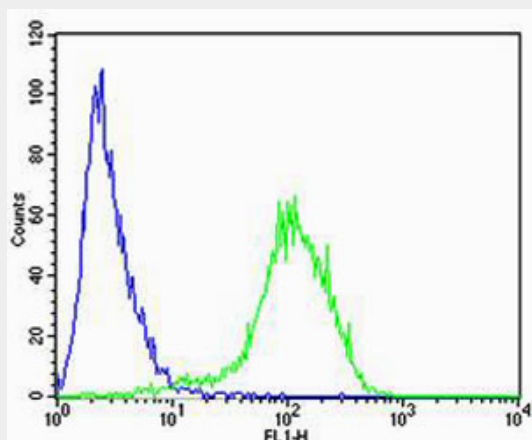
Blue Ice

Phospho-Tyr1325 NMDA NR2A-Subunit Antibody - Protocols

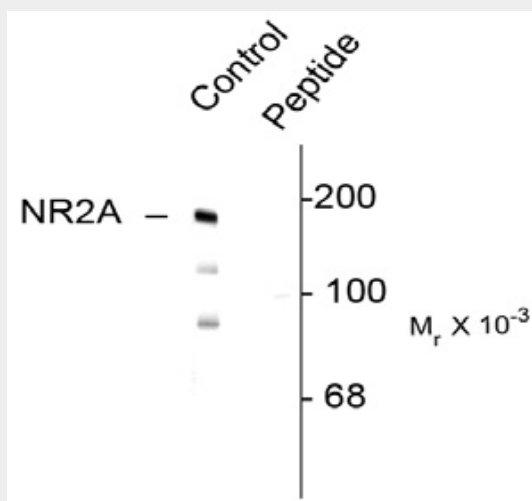
Provided below are standard protocols that you may find useful for product applications.

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

Phospho-Tyr1325 NMDA NR2A-Subunit Antibody - Images



Flow cytometric analysis of SH-SY5Y cells using Phospho-Tyr1325 NMDA NR2A-Subunit Antibody (green, Cat#AN1203) compared to an isotype control of rabbit IgG (blue). AN1203 was diluted at 1:500 dilution. An Alexa Fluor® 488 goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody.



Western blot of rat hippocampal lysate showing specific immunolabeling of the ~180k NR2A subunit of the NMDAR phosphorylated at Tyr1325 (Control). The phosphospecificity of this labeling is shown in the second lane where immunoreactivity is blocked by preadsorption with the phospho-peptide (Peptide) used as antigen but not by the dephosphopeptide (not shown).

Phospho-Tyr1325 NMDA NR2A-Subunit 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). 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).

Phospho-Tyr1325 NMDA NR2A-Subunit Antibody - References

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- 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.