

Anti-Phospho-Tyr¹³³⁶ NMDA Receptor, NR2B-Subunit Antibody



PhosphoSolutions®
Antibodies that work™

Catalog #: p1516-1336

Size: 100 µl

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Host	Applications	Species Tested	Species Reactivity*	Molecular Reference
Rabbit	WB 1:1000 IHC 1:400	M, R	H, NHP	~180 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

Biological Significance: 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 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 Tyr¹³³⁶ is thought to potentiate NMDA receptor-dependent influx of calcium (Takasu et al., 2002) and ischemia may also increase the phosphorylation of this site (Takagi et al., 2003).

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Tyr¹³³⁶ of rat NMDA NR2B.

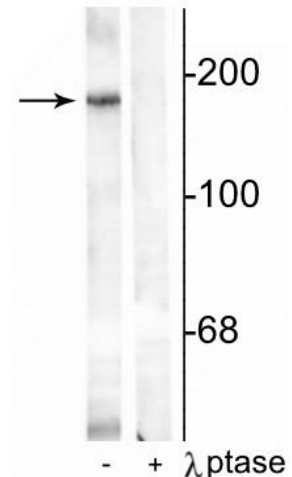
Antibody Specificity: Specific for endogenous levels of the ~180 kDa NMDAR NR2B-subunit protein phosphorylated at Tyr¹³³⁶. Immunolabeling is completely eliminated by treatment with λ-Ptase.

Purification Method: Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.

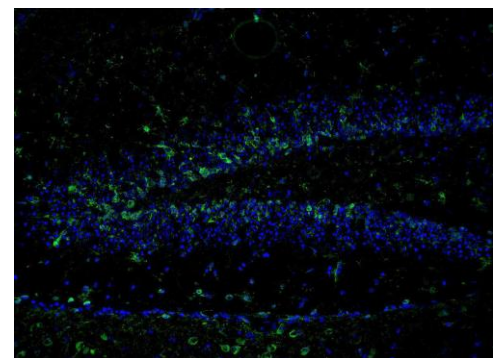
Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of rat hippocampal lysate showing specific immunolabeling of the ~180 kDa NR2B subunit phosphorylated at Tyr¹³³⁶ in the first lane (-). Phosphospecificity is shown in the second lane (+) where immunolabeling is completely eliminated by blot treatment with *lambda* phosphatase (λ-Ptase, 1200 units for 30 min).



Immunostaining of mouse dentate gyrus 48 hour post TMT treatment showing NR2B when phosphorylated at Tyr¹³³⁶ in green and nuclei in blue. Photo Courtesy of Rob Wine.

Application Key: WB = Western Blot IF = Immunofluorescence IHC = Immunohistochemistry IP = Immunoprecipitation

Species Reactivity Key: All-All Species A-Avian Amp-Amphibian Ar-*Arabidopsis* B-Bovine C-Canine Ch-Chicken D-*Drosophila* GP-Guinea Pig H-Human Ha-Hamster M-Mouse NHP-Non-human primate P-Pig R-Rat S-Sheep X-*Xenopus* Z-Zebrafish

*Species assumed based on 100% homology with sequence used as antigen

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Product Specific References:

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General References:

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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.

Note: Dr. Michael Browning, a coauthor of two of the cited papers, is CEO and founder of PhosphoSolutions.