

PRODUCT DATA SHEET

Product Name: ANTI-PHOSPHO-Tyr¹²⁵² NMDA RECEPTOR, NR2B SUBUNIT ANTIBODY

Product Code: P40024-100

Pack Size: 100 µL

Description: 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).

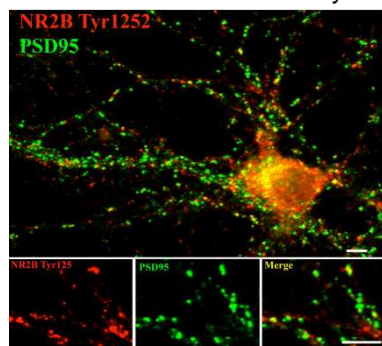
Physical State: Liquid; Buffer contents: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per mL BSA and 50% glycerol

Storage/Stability: Stable at -20 °C for at least 1 year. For long term storage -20 °C is recommended

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

Shipping Conditions: Domestic: Blue Ice
 International: Blue Ice or Dry Ice

Immunostaining
 14 DIV rat cortical neurons showing NR2B phosphorylated at Tyr¹²⁵² in red and PSD95 in green. Photo courtesy of Gang Liu.



Host Species: Rabbit (Polyclonal)

Mr (kDa): 180

Immunogen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Tyr¹²⁵² of the NR2B subunit of the rat NMDA receptor. 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.

Species Reactivity: The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will react with bovine, canine, chicken, human, mouse, non-human primate and zebra fish based on the fact that these species have 100% homology with the amino acid sequence used as antigen.

Recommended Antibody Dilutions:

WB: 1:1000

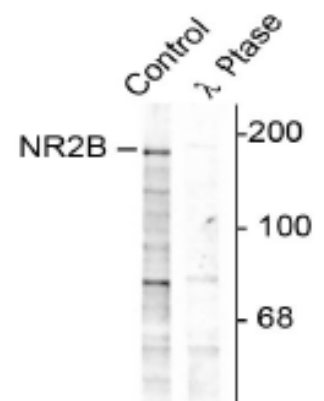
IHC: 1:400

References:

- 1) Carroll RC et al. (2002) *Trends Neurosci* 25:571-577.
- 2) Grosshans DR et al. (2002) *Nat Neurosci* 5:27-33.
- 3) Ishii T et al. (1993) *J Biol Chem* 268:2836-2843.
- 4) Takasu MA et al. (2002) *Science* 295:491-495.
- 9) Wenthold RJ et al. (2003) *Annu Rev Pharmacol Toxicol* 43:335-358.

Western Blot

Rat hippocampal lysate showing specific immunolabeling of the ~180k NR2B subunit phosphorylated at Tyr¹²⁵² (Control). The immunolabeling is completely eliminated by treatment with λ-Phosphatase shown in lane 2.



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