

PRODUCT DATA SHEET

Product Name: ANTI-NMDA RECEPTOR, NR2B SUBUNIT ANTIBODY

Product Code: P43101-10

Pack Size: 10 µg

Description: 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). The rat NMDAR1 (NR1) was the first subunit of the NMDAR to be cloned and it 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. Overexpression of the NR2B-subunit of the NMDA receptor has been associated with increases in learning and memory while aged, memory impaired animals have deficiencies in NR2B expression (Clayton et al., 2002a; Clayton et al., 2002b). The NMDAR is also potentiated by protein phosphorylation (Lu et al., 1999).

Physical State: Lyophilized from 5 mM ammonium bicarbonate. The antibody should be reconstituted in 50 µl phosphate buffered saline (PBS: 137 mM NaCl, 7.5 mM Na₂HPO₄, 2.7 mM KCl, 1.5 mM KH₂PO₄, pH 7.4) before use. After reconstitution the antibody should be aliquoted and stored at -20°C.

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 using a column to which the fusion protein immunogen was coupled.

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

Host Species: Rabbit (Polyclonal)

Mr (kDa): 180

Immunogen: Fusion protein from the C-terminus of the NR2B subunit of rat NMDA receptor.

Species Reactivity: Recognizes human, mouse and rat forms of the NR2B subunit of NMDAR. No reactivity towards the NR2A and NR2C subunits. Immunolabeling is blocked by pre-adsorption of antibody with the fusion protein used to generate the antibody.

Recommended Antibody Dilutions:

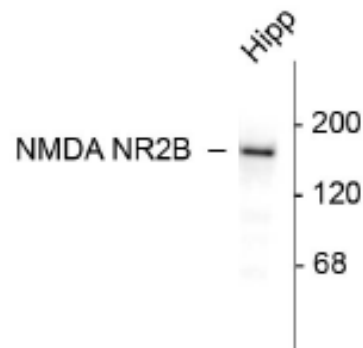
WB: 1:1000
IHC: 1:1000 to 1:2000
IP: 3 µL per 200 µg lysate

References:

- 1) Alvestad RM et al. (2003) *J Biol Chem* 278:11020-11025.
- 2) C. A. Bostrom et al. (2013) *Cereb Cortex*, Nov; 10.1093/cercor/bht237.
- 3) Carroll RC et al. (2002) *Trends Neurosci* 25:571-577.
- 4) Clayton DA et al. (2002a) *J Biol Chem* 277:14367-14369.
- 5) Clayton DA et al. (2002b) *J Neurosci* 22:3628-3637.
- 6) Grosshans DR et al. (2002) *Nat Neurosci* 5:27-33.
- 7) Lovinger DM et al. (1989) *Science* 243:1721-1724.
- 8) Lu W-Y et al. (1999) *Nature Neurosci* 2:331-338.
- 9) Snell LD et al. (1996) *Mol Brain Res* 40:71-78.
- 10) Wenthold RJ et al. (2003) *Annu Rev Pharmacol Toxicol* 43:335-358.

Western Blot

10 ug of rat hippocampal (Hipp) lysate showing specific immunolabeling of the ~180k NR2B subunit of the NMDA receptor.



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