

## PRODUCT DATA SHEET

**Product Name:** ANTI-NMDA RECEPTOR, NR1 SUBUNIT ANTIBODY

**Product Code:** P80001-15

**Pack Size:** 15 µg

**Description:** The ion channels activated by glutamate are typically divided into two classes. Glutamate receptors that are activated by kainate and  $\alpha$ -amino-3-hydroxy-5-methyl-4-isoxalone propionic acid (AMPA) are known as kainate/AMPA receptors (K/AMPA). Those 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 NMDAR is also potentiated by protein phosphorylation (Lu et al., 1999). 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.

**Physical State:** Lyophilized from culture supernatant. The antibody should be reconstituted in 50 µl phosphate buffered saline (PBS: 137 mM NaCl, 7.5 mM Na<sub>2</sub>HPO<sub>4</sub>, 2.7 mM KCl, 1.5 mM KH<sub>2</sub>PO<sub>4</sub>, 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:** Culture supernatant

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

**Host Species:** Mouse (Monoclonal)

**Mr (kDa):** 120

**Immunogen:** Fusion protein containing amino acids 1-564 of the NR1 subunit of rat NMDA receptor.

**Species Reactivity:** The antibody has been directly tested for reactivity in Western blots in rat and mouse tissues.

### Recommended Antibody Dilutions:

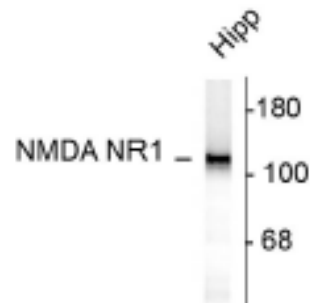
**WB:** 1:1000  
**IP:** 3 µg per 200 µg lysate

### References:

- 1) Alvestad RM et al. (2003) *J Biol Chem* 278:11020-11025.
- 2) Carroll RC et al. (2002) *Trends Neurosci* 25:571-577.
- 3) Grosshans DR et al. (2002) *Nat Neurosci* 5:27-33.
- 4) Lovinger DM et al. (1989) *Science* 243:1721-1724.
- 5) Lu W-Y et al. (1999) *Nature Neurosci* 2:331-338.
- 6) Snell LD et al. (1996) *Mol Brain Res* 40:71-78.
- 7) Wenthold RJ et al. (2003) *Annu Rev Pharmacol Toxicol* 43:335-358.

### Western Blot

10 µg of rat hippocampal (Hipp) lysate showing specific immunolabeling of the ~120k NR1 subunit of the NMDA receptor.



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