



PhosphoSolutions®
Antibodies that work™

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Anti-Glycine Receptor

Catalog Number: 700-GLY

Size: 200 µg

\$310.00

Product Description: Affinity purified rabbit polyclonal antibody

Applications: **WB:** 1:1000

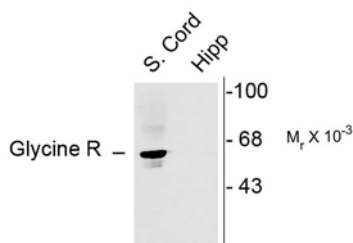
IHC (frozen sections; unpublished observations): 1:1000

Antigen: Peptide from the N-terminus region of the α_1 -subunit of rat glycine receptor.

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

Biological Significance: Glycine is an important inhibitory transmitter in the brainstem and spinal cord. Glycine receptors are members of the ligand-gated ion channel family (LGICs) that mediate rapid chemical neurotransmission (Schofield et al., 2003). The binding of glycine to its receptor produces a large increase in chloride conductance, which causes membrane hyperpolarization. Glycine receptors are anchored at inhibitory chemical synapses by a cytoplasmic protein, gephyrin (Fischer et al., 2000). The glycine receptor has been used to great advantage in the identification of the binding sites for alcohol on the LGIC family of proteins (Beckstead et al., 2001; Mihic et al., 1997). These receptors have also been extremely useful in studies of synaptic clustering of receptors (Craig and Lichtman, 2001). The glycine receptor may also act in concert with an NMDAR subunit to form an excitatory receptor (Chatterton et al., 2002).

Anti-Glycine Receptor



Western blot of rat spinal cord showing specific immunolabeling of the ~48k α_1 - and α_2 -subunits of the glycine receptor. The labeling was absent from a rat hippocampal (hipp) lysate as the glycine receptor is not expressed in the hippocampus.

WB = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation

Packaging: 200 µg antibody vial; 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. Adequate amount of material to conduct 10-mini Western Blots.

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

Shipment: Domestic - Ambient; International - Ambient.

Purification Method: Prepared from rabbit serum by affinity purification using a column to which the peptide immunogen was coupled.

Antibody Specificity: Specific for the ~48k α_1 - and α_2 -subunits of the glycine receptor in Western blots of rat spinal cord and brain stem and in cell extracts. Immunolabeling blocked by preadsorption of antibody with the peptide immunogen. Does not recognize other glycine receptor subunits.

Quality Control Tests: Western blots performed on each lot.

References:

- Beckstead MJ, Phelan R, Mihic SJ (2001) Antagonism of inhalant and volatile anesthetic enhancement of glycine receptor function. *J Biol Chem* 276:24959-24964.
- Chatterton JE, Awobuluyi M, Premkumar LS, Takahashi H, Talantova M, Shin Y, Cui JK, Tu SC, Kevin ASK, Nakanishi N, Tong G, Lipton SA, Zhang DX (2002) Excitatory glycine receptors containing the NR3 family of NMDA receptor subunits. *Nature (London)* 415:793-798.
- Craig AM, Lichtman JW (2001) Getting a bead on receptor movements. *Nat Neurosci* 4:219-220.
- Fischer F, Kneussel M, Tintrup H, Haverkamp S, Rauen T, Betz H, Wässle H (2000) Reduced synaptic clustering of GABA and glycine receptors in the retina of the gephyrin null mutant mouse. *J Comp Neurol* 427:634-648.
- Mihic SJ, Ye Q, Wick MJ, Koltchine VV, Krasowski MD, Finn SE, Mascia MP, Valenzuela CF, Hanson KK, Greenblatt EP, Harris RA, Harrison NL (1997) Sites of alcohol and volatile anaesthetic action on GABA_A and glycine receptors. *Nature (London)* 389:385-389.
- Schofield CM, Jenkins A, Harrison NL (2003) A highly conserved aspartic acid residue in the signature disulfide loop of the α_1 -subunit is a determinant of gating in the glycine receptor. *J Biol Chem* 278:34079-34083.

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Packaging: 200 μ g antibody vial; lyophilized from 5 mM ammonium bicarbonate. The antibody should be reconstituted in 50 μ l 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. Adequate amount of material to conduct 10-mini Western Blots.

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