

Product Information



Glycine Receptor Polyclonal Antibody

Item No. 10009399

Supplied as:	200 µg of affinity-purified rabbit polyclonal antibody
Host:	Rabbit
Antigen:	Peptide from N-terminal region of the α_1 -subunit of the rat glycine receptor
Cross Reactivity:	(+) Human, mouse, and rat glycine receptor
Stability:	≥ 1 year at -20°C
Applications:	The recommended starting dilution for western blot and immunohistochemistry (frozen sections) is 1:1,000.

Glycine is an important inhibitory transmitter in the brain stem and spinal cord. Glycine receptors are members of the ligand-gated ion channel family (LGICs) that mediate rapid chemical neurotransmission.¹ 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.² The glycine receptor has been used to great advantage in the identification of the binding sites for alcohol on the LGIC family of proteins.^{3,4} These receptors have also been extremely useful in studies of synaptic clustering of receptors.⁵ The glycine receptor may also act in concert with an NMDAR subunit to form an excitatory receptor.⁶

References

1. Schofield, C.M., Jenkins, A., and Harrison, N.L. 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 (2003).
2. Fischer, F., Kneussel, M., Tintrup, H., et al. Reduced synaptic clustering of GABA and glycine receptors in the retina of the gephyrin null mutant mouse. *J. Comp. Neurol.* **427**, 634-648 (2000).
3. Beckstead, M.J., Phelan, R., and Mihic, S.J. Antagonism of inhalant and volatile anesthetic enhancement of glycine receptor function. *J. Biol. Chem.* **276**, 24959-24964 (2001).
4. Mihic, S.J., Ye, Q., Wick, M.J., et al. Sites of alcohol and volatile anaesthetic action of GABAA and glycine receptors. *Nature* **389**, 385-389 (1997).
5. Craig, A.M. and Lichtman, J.W. Getting a bead on receptor movements. *Nat. Neurosci.* **4**, 219-220 (2001).
6. Chatterton, J.E., Awobuluyi, M., Premkumar, L.S., et al. Excitatory glycine receptors containing the NR3 family of NMDA receptor subunits. *Nature* **415**, 793-798 (2002).

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