

GlyR β (N-20): sc-17283

BACKGROUND

In the central nervous system (CNS), glycine-mediated inhibitory neurotransmission is essential to voluntary motor control and reflex responses. Glycine binds to glycine receptors (GlyR) in the postsynaptic neuronal membranes. GlyR, γ -aminobutyric acid, serotonin and acetylcholine comprise an evolutionally conserved superfamily of ligand-gated ion channels. The pentameric subunit structure of GlyR consists of two types of glycosylated membrane proteins, α 1 through α 4 and β , and an associated peripheral membrane protein, which combine to form a chloride-selective ion channel. In humans, the composition of the pentamer changes from α 2 subunits in the fetal CNS to α 1 and β subunits in the adult CNS. Fast potentiation of GlyR by intracellular Ca^{2+} in the brainstem and midbrain indicate an important role for Ca^{2+} in modulation of glycinergic synapses. The genes encoding human GlyR α 1, α 2, α 3 and β subunits map to chromosomes 5q32, Xp22, 4q33 and 4q31.3, respectively.

REFERENCES

- Pfeiffer, F., et al. 1981. Solubilisation of the glycine receptor from rat spinal cord. *Brain Res.* 226: 273-279.
- Pfeiffer, F., et al. 1982. Purification by affinity chromatography of the glycine receptor of rat spinal cord. *J. Biol. Chem.* 257: 9389-9393.
- Genningloh, G., et al. 1987. The strychnine-binding subunit of the glycine receptor shows homology with nicotinic acetylcholine receptors. *Nature* 328: 215-220.
- Schofield, P.R., et al. 1987. Sequence and functional expression of the GABA_A receptor shows a ligand-gated receptor super-family. *Nature* 328: 221-227.
- Langosch, D., et al. 1988. Conserved quaternary structure of ligand-gated ion channels: the postsynaptic glycine receptor is a pentamer. *Proc. Natl. Acad. Sci. USA* 85: 7394-7398.
- Hoch, W., et al. 1989. Primary cultures of mouse spinal cord express the neonatal isoform of the inhibitory glycine receptor. *Neuron* 3: 339-348.

CHROMOSOMAL LOCATION

Genetic locus: GLRB (human) mapping to 4q32.1; Glrb (mouse) mapping to 3 E3.

SOURCE

GlyR β (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GlyR β of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17283 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

GlyR β (N-20) is recommended for detection of GlyR β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GlyR β (N-20) is also recommended for detection of GlyR β in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GlyR β siRNA (h): sc-42471, GlyR β siRNA (m): sc-42472, GlyR β shRNA Plasmid (h): sc-42471-SH, GlyR β shRNA Plasmid (m): sc-42472-SH, GlyR β shRNA (h) Lentiviral Particles: sc-42471-V and GlyR β shRNA (m) Lentiviral Particles: sc-42472-V.

Molecular Weight of GlyR β : 58 kDa.

Positive Controls: TT whole cell lysate: sc-364195.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Lee, S.C., et al. 2005. Expression of glycine receptor and transporter on bullfrog retinal Müller cells. *Neurosci. Lett.* 387: 75-79.
- Laterza, O.F., et al. 2006. Identification of novel brain biomarkers. *Clin. Chem.* 52: 1713-1721.
- Ge, L.H., et al. 2007. Glycine receptors are functionally expressed on bullfrog retinal cone photoreceptors. *Neuroscience* 146: 427-434.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



Try **GlyR β (D-8): sc-365819** or **GlyR β (G-1): sc-390156**, our highly recommended monoclonal alternatives to GlyR β (N-20).