SANTA CRUZ BIOTECHNOLOGY, INC.

GlyR β (G-1): sc-390156

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-aminobutryic 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, α1 through α4 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 α2 subunits in the fetal CNS to α1 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.

REFERENCES

1. Pfeiffer, F., et al. 1981. Solubilisation of the glycine receptor from rat spinal cord. Brain Res. 226: 273-279.
2. Pfeiffer, F., et al. 1982. Purification by affinity chromatography of the glycine receptor of rat spinal cord. J. Biol. Chem. 257: 9389-9393.
3. Genningloh, G., et al. 1987. The strychnine-binding subunit of the glycine receptor shows homology with nicotinic acetylcholine receptors. Nature 328: 215-220.
4. 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.
5. Langosch, D., et al. 1988. Conserved quarternary structure of ligand-gated ion channels: the postsynaptic glycine receptor is a pentameter. Proc. Natl. Acad. Sci. USA 85: 7394-7398.
6. Hoch, W., et al. 1989. Primary cultures of mouse spinal cord express the neonatal isoform of the inhibitory glycine recpetor. Neuron 3: 339-348.
7. Grenningloh, G., et al. 1990. α subunit variants of the human glycine receptor: primary structures, functional expression and chromosomal location of corresponding genes. EMBO J. 9: 771-776.

CHROMOSOMAL LOCATION

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

SOURCE

GlyR β (G-1) is a mouse monoclonal antibody raised against amino acids 328-497 of GlyR β of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

GlyR β (G-1) is recommended for detection of GlyR β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 (G-1) is also recommended for detection of GlyR β in additional species, including equine and canine.

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.

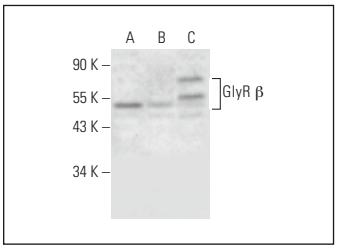
Molecular Weight of GlyR β: 58 kDa.

Positive Controls: GlyR β (h): 293T Lysate: sc-115142, Raji whole cell lysate: sc-364236 or Y79 cell lysate: sc-2240.

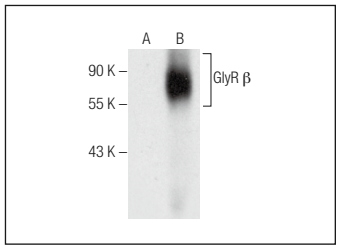
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GlyR β (G-1): sc-390156. Western blot analysis of GlyR β expression in Raji (**A**), Y79 (**B**) and SH-SY5Y (**C**) whole cell lysates.



GlyR β (G-1): sc-390156. Western blot analysis of GlyR β expression in non-transfected: sc-117752 (**A**) and human GlyR β transfected: sc-115142 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.