SANTA CRUZ BIOTECHNOLOGY, INC.

GlyR α (H-70): sc-33611

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 post synaptic 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 glycinergic synapses. The genes encoding human GlyR α1, α2, α3 and β subunits map to chromosomes 5q32, Xp22, 4q33 and 4q31, respectively.

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.

SOURCE

GlyR α (H-70) is a rabbit polyclonal antibody raised against amino acids 191-260 mapping within an internal region of GlyR α1 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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 α (H-70) is recommended for detection of GlyR α1, α2, α3 and α4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 α (H-70) is also recommended for detection of GlyR α1, α2, α3 and α4 in additional species, including equine, canine, bovine, porcine and avian.

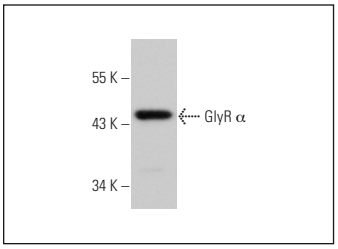
Molecular Weight of GlyR α: 48 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812 or F9 cell lysate: sc-2245.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GlyR α (H-70): sc-33611. Western blot analysis of GlyR α expression in SH-SY5Y whole cell lysate.

RESEARCH USE

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

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **GlyR α1 (2E7): sc-293498** or **GlyR α2 (C-11): sc-398964**, our highly recommended monoclonal alternatives to GlyR α (H-70).