SANTA CRUZ BIOTECHNOLOGY, INC.

GlyR α2 (H-50): sc-20133



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, $\alpha 1$ through $\alpha 4$ 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 $\alpha 2$ subunits in the fetal CNS to $\alpha 1$ and β subunits in the adult CNS. Fast potentiation of GlyR by intracellular Ca²⁺ in the brainstem and midbrain indicate an important role for Ca²⁺ in modulation glycinergic synapses. The genes encoding human GlyR $\alpha 1$, $\alpha 2$, $\alpha 3$ and β subunits map to chromosomes 5q32, Xp22.2, 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.
- 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 quarternary structure of ligand-gated ion channels: the postsynaptic glycine receptor is a pentameter. 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 recpetor. Neuron 3: 339-348.

CHROMOSOMAL LOCATION

Genetic locus: GLRA2 (human) mapping to Xp22.2; Glra2 (mouse) mapping to X F5.

SOURCE

GlyR α 2 (H-50) is a rabbit polyclonal antibody raised against amino acids 371-420 mapping at the C-terminus of GlyR α 2 of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GlyR α 2 (H-50) is recommended for detection of GlyR α 2 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 2 (H-50) is also recommended for detection of GlyR α 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GlyR α 2 siRNA (h): sc-35499, GlyR α 2 siRNA (m): sc-35500, GlyR α 2 shRNA Plasmid (h): sc-35499-SH, GlyR α 2 shRNA Plasmid (m): sc-35500-SH, GlyR α 2 shRNA (h) Lentiviral Particles: sc-35499-V and GlyR α 2 shRNA (m) Lentiviral Particles: sc-35500-V.

Molecular Weight of GlyR a2: 48 kDa.

Positive Controls: F9 cell lysate: sc-2245.

DATA





GlyR a2 (H-50): sc-20133. Western blot analysis of

GlyR a2 expression in F9 whole cell lysate.

GlyR $\alpha 2$ (H-50): sc-20133. Western blot analysis of human recombinant GlyR $\alpha 2$ fusion protein.

SELECT PRODUCT CITATIONS

- García-Alcocer, G., et al. 2008. Developmental expression of glycine receptor subunits in rat cerebellum. Int. J. Dev. Neurosci. 26: 319-322.
- 2. Liu, Q. and Wong-Riley, M.T. 2013. Postnatal development of glycine receptor subunits $\alpha 1$, $\alpha 2$, $\alpha 3$, and β immunoreactivity in multiple brain stem respiratory-related nuclear groups of the rat. Brain Res. 1538: 1-16.

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 Satisfation Guaranteed

Try **GlyR** α **2 (C-11):** sc-398964, our highly recommended monoclonal alternative to GlyR α 2 (H-50).