SANTA CRUZ BIOTECHNOLOGY, INC.

GlyR α1 (Q-24): sc-133629

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 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 GABAA 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.

CHROMOSOMAL LOCATION

Genetic locus: GLRA1 (human) mapping to 5q33.1; Glra1 (mouse) mapping to 11 B1.3.

SOURCE

GlyR α1 (Q-24) is an affinity purified rabbit polyclonal antibody raised against synthetic GlyR α1 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

GlyR α1 (Q-24) is recommended for detection of GlyR α1 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GlyR α1 siRNA (h): sc-42467, GlyR α1 siRNA (m): sc-42468, GlyR α1 shRNA Plasmid (h): sc-42467-SH, GlyR α1 shRNA Plasmid (m): sc-42468-SH, GlyR α1 shRNA (h) Lentiviral Particles: sc-42467-V and GlyR α1 shRNA (m) Lentiviral Particles: sc-42468-V.

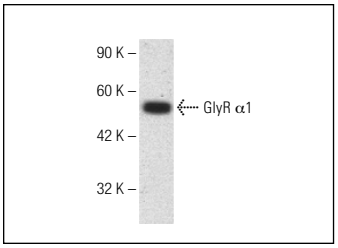
Molecular Weight of GlyR α1: 48 kDa.

Positive Controls: Raji whole cell lysate: sc-364236.

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).

DATA



GlyR α1 (Q-24): sc-133629. Western blot analysis of GlyR α1 expression in Raji whole cell lysate.

STORAGE

1. Liu, Q., et al. 2013. Postnatal development of glycine receptor subunits α1, α2, α3, and β immunoreactivity in multiple brain stem respiratory-related nuclear groups of the rat. Brain Res. 1538: 1-16.

PROTOCOLS

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