SANTA CRUZ BIOTECHNOLOGY, INC.

GlyR α2 (N-18): sc-17279

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, Xp22.2, 4q33 and 4q31, respectively.

CHROMOSOMAL LOCATION

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

SOURCE

GlyR α2 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GlyR α2 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.

Blocking peptide available for competition studies, sc-17279 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GlyR α2 (N-18) is recommended for detection of GlyR α2 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 α2 (N-18) is also recommended for detection of GlyR α2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GlyR α2 siRNA (h): sc-35499, GlyR α2 siRNA (m): sc-35500, GlyR α2 shRNA Plasmid (h): sc-35499-SH, GlyR α2 shRNA Plasmid (m): sc-35500-SH, GlyR α2 shRNA (h) Lentiviral Particles: sc-35499-V and GlyR α2 shRNA (m) Lentiviral Particles: sc-35500-V.

Molecular Weight of GlyR α2: 48 kDa.

Positive Controls: F9 cell lysate: sc-2245 or mouse brain extract: sc-2253.

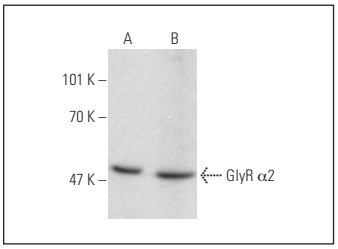
STORAGE

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.

DATA



GlyR α2 (N-18): sc-17279. Western blot analysis of GlyR α2 expression in F9 whole cell lysate (**A**) and mouse brain tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Haverkamp, S., et al. 2004. Diversity of glycine receptors in the mouse retina: localization of the α2 subunit. J. Comp. Neurol. 477: 399-411.
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3. Lee, S.C., et al. 2005. Expression of glycine receptor and transporter on bullfrog retinal Müller cells. Neurosci. Lett. 387: 75-79.
4. Heinze, L., et al. 2007. Diversity of glycine receptors in the mouse retina: localization of the α4 subunit. J. Comp. Neurol. 500: 693-707.
5. Majumdar, S., et al. 2007. Glycine receptors of A-type ganglion cells of the mouse retina. Vis. Neurosci. 24: 471-487.
6. Weiss, J., et al. 2008. Glycinergic input of small-field amacrine cells in the retinas of wildtype and glycine receptor deficient mice. Mol. Cell. Neurosci. 37: 40-55.
7. Kumar, P. and Meizel, S. 2008. Identification and spatial distribution of glycine receptor subunits in human sperm. Reproduction 136: 387-390.
8. Majumdar, S., et al. 2008. Mirror-symmetrical populations of wide-field amacrine cells of the macaque monkey retina. J. Comp. Neurol. 508: 13-27.
9. García-Alcocer, G., et al. 2008. Developmental expression of glycine receptor subunits in rat cerebellum. Int. J. Dev. Neurosci. 26: 319-322.
10. Majumdar, S., et al. 2009. Glycinergic input of widefield, displaced amacrine cells of the mouse retina. J. Physiol. 587: 3831-3849.