SANTA CRUZ BIOTECHNOLOGY, INC.

GlyR α2 (C-11): sc-398964

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-aminobutyric 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 5q33.1, Xp22.2, 4q34.1 and 4q32.1, respectively.

CHROMOSOMAL LOCATION

Genetic locus: GLRA2 (human) mapping to Xp22.2.

SOURCE

GlyR α2 (C-11) is a mouse monoclonal antibody raised against amino acids 371-420 mapping at the C-terminus of GlyR α2 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.

GlyR α2 (C-11) is available conjugated to agarose (sc-398964 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398964 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398964 PE), fluorescein (sc-398964 FITC), Alexa Fluor® 488 (sc-398964 AF488), Alexa Fluor® 546 (sc-398964 AF546), Alexa Fluor® 594 (sc-398964 AF594) or Alexa Fluor® 647 (sc-398964 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398964 AF680) or Alexa Fluor® 790 (sc-398964 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GlyR α2 (C-11) is recommended for detection of GlyR α2 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

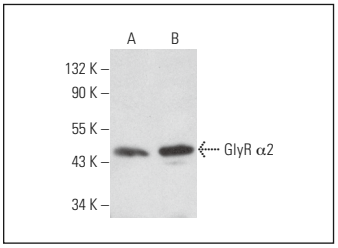
Molecular Weight of GlyR α2: 48 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181 or T98G cell lysate: sc-2294.

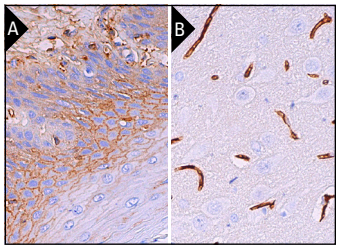
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GlyR α2 (C-11): sc-398964. Western blot analysis of GlyR α2 expression in NTERA-2 cl.D1 (**A**) and T98G (**B**) whole cell lysates.



GlyR α2 (C-11): sc-398964. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing membrane staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat brain tissue showing membrane and cytoplasmic staining of endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Schwale, C., et al. 2016. KCC2 knockdown impairs glycinergic synapse maturation in cultured spinal cord neurons. Histochem. Cell Biol. 145: 637-646.
2. Yu, H., et al. 2021. Characterization of the subunit composition and structure of adult human glycine receptors. Neuron 109: 2707-2716.e6.

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.

PROTOCOLS

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