# SANTA CRUZ BIOTECHNOLOGY, INC.

# GlyR α1 (2E7): sc-293498



# 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,  $\gamma$ -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  $\beta$ , 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  $\beta$  subunits in the adult CNS. Fast potentiation of GlyR by intracellular Ca<sup>2+</sup> in the brainstem and midbrain indicate an important role for Ca<sup>2+</sup> in modulation glycinergic synapses. The genes encoding human GlyR  $\alpha 1$ ,  $\alpha 2$ ,  $\alpha 3$  and  $\beta$  subunits map to chromosomes 5q33.1, Xp22.2, 4q34.1 and 4q32.1, respectively.

# REFERENCES

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- Schofield, P.R., et al. 1987. Sequence and functional expression of the GABA<sub>A</sub> receptor shows a ligand-gated receptor super-family. Nature 328: 221-227.
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- Wasmuth, J.J. 1992. A comparison of three methods to produce a high resolution physical map of 11 genes on the distal region of the long arm of human chromosome 5: radiation hybrid mapping, pulsed-field gel electrophoresis and fluorescent *in situ* hybridization. Am. J. Hum. Genet. 51: A248.
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# CHROMOSOMAL LOCATION

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

# SOURCE

GlyR  $\alpha$ 1 (2E7) is a mouse monoclonal antibody raised against amino acids 121-220 representing partial length GlyR  $\alpha$ 1 of human origin.

#### PRODUCT

Each vial contains 100  $\mu$ g lgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **APPLICATIONS**

GlyR  $\alpha$ 1 (2E7) is recommended for detection of GlyR  $\alpha$ 1 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  $\alpha$ 1 siRNA (h): sc-42467, GlyR  $\alpha$ 1 siRNA (m): sc-42468, GlyR  $\alpha$ 1 shRNA Plasmid (h): sc-42467-SH, GlyR  $\alpha$ 1 shRNA Plasmid (m): sc-42468-SH, GlyR  $\alpha$ 1 shRNA (h) Lentiviral Particles: sc-42467-V and GlyR  $\alpha$ 1 shRNA (m) Lentiviral Particles: sc-42468-V.

Molecular Weight of GlyR a1: 48 kDa.

Positive Controls: GlyR  $\alpha$ 1 transfected 293T whole cell lysate.

#### **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<sup>®</sup> 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).

# DATA





GlyR  $\alpha 1$  (2E7): sc-293498. Western blot analysis of GlyR  $\alpha 1$  expression in non-transfected (**A**) and GlyR  $\alpha 1$  transfected (**B**) 293T whole cell lysates.

GlyR  $\alpha$ 1 (2E7): sc-293498. Western blot analysis of human recombinant GlyR  $\alpha$ 1 fusion protein.

#### 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.