SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_A$ Rπ (H-115): sc-25708

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GAD-65 and GAD-67, glutamate decarboxylases function to catalyze the production of GABA (γ-aminobutyric acid). In the central nervous system GABA functions as the main inhibitory transmitter by increasing a Cl-conductance that inhibits neuronal firing. GABA has been shown to activate both ionotropic ($GABA_A$) and metabotropic ($GABA_B$) receptors as well as a third class of receptors called $GABA_C$. Both $GABA_A$ and $GABA_C$ are ligand-gated ion channels, however, they are structurally and functionally distinct. Members of the $GABA_A$ receptor family include $GABA_A$ Rα1-6, $GABA_A$ R β1-3, $GABA_A$ Rγ1-3, $GABA_A$ Rδ, $GABA_A$ Rε, $GABA_A$ Rρ1 and $GABA_A$ Rρ2 and $GABA_A$ Rπ. In the uterus, the function of the π receptor appears to be related to tissue contractility. The binding of this π subunit with other $GABA_A$ receptor subunits alters the sensitivity of recombinant receptors to modulatory agents such as pregnanolone.

REFERENCES

1. Nelson, H., et al. 1990. Cloning of the human brain GABA transporter. FEBS Lett. 269: 181-184.
2. Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early postnatal life. Trends Neurosci. 14: 515-519.
3. Borden, L.A., et al. 1992. Molecular heterogeneity of the γ-aminobutyric acid (GABA) transport system. Cloning of two novel high affinity GABA transporters from rat brain. J. Biol. Chem. 267: 21098-21104.
4. Dirkx, R., Jr., et al. 1995. Targeting of the 67 kDa isoform of glutamic acid decarboxylase to intracellular organelles is mediated by its interaction with the NH_2-terminal region of the 65 kDa isoform of glutamic acid decarboxylase. J. Biol. Chem. 270: 2241-2246.
5. Lukasiewicz, P.D. 1996. $GABA_C$ receptors in the vertebrate retina. Mol. Neurobiol. 12: 181-194.
6. Kaupmann, K., et al. 1997. Expression cloning of $GABA_B$ receptors uncovers similarity to metabotropic glutamate receptors. Nature 386: 239-246.
7. Korpi, E.R., et al. 1997. $GABA_A$ receptor subtypes: clinical efficiency and selectivity of benzodiazepine site ligands. Ann. Med. 29: 275-282.

CHROMOSOMAL LOCATION

Genetic locus: GABRP (human) mapping to 5q35.1; Gabrp (mouse) mapping to 11 A4.

SOURCE

$GABA_A$ Rπ (H-115) is a rabbit polyclonal antibody raised against amino acids 326-440 mapping at the C-terminus of $GABA_A$ Rπ 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.

STORAGE

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

APPLICATIONS

$GABA_A$ Rπ (H-115) is recommended for detection of $GABA_A$ Rπ 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) 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).

$GABA_A$ Rπ (H-115) is also recommended for detection of $GABA_A$ Rπ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for $GABA_A$ Rπ siRNA (h): sc-43788, $GABA_A$ Rπ shRNA Plasmid (h): sc-43788-SH and $GABA_A$ Rπ shRNA (h) Lentiviral Particles: sc-43788-V.

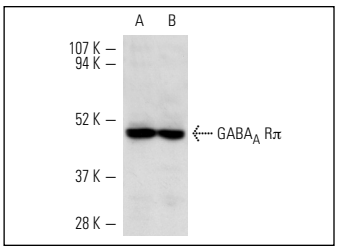
Molecular Weight of $GABA_A$ Rπ: 50 kDa.

Positive controls: MES-SA/Dx5 cell lysate: sc-2284, LNCaP cell lysate: sc-2231 or JAR cell lysate: sc-2276.

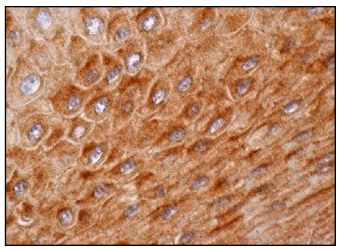
RECOMMENDED SECONDARY REAGENTS

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



$GABA_A$ Rπ (H-115): sc-25708. Western blot analysis of $GABA_A$ Rπ expression in MES-SA/Dx5 (**A**) and JAR (**B**) whole cell lysates.



$GABA_A$ Rπ (H-115): sc-25708. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of squamous epithelial cells.

RESEARCH USE

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