SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_A$ Rδ (H-100): sc-25705

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, $GABA_A$ Rβ1-3, $GABA_A$ Rγ1-3, $GABA_A$ Rδ, $GABA_A$ Rε, $GABA_A$ Rρ1 and $GABA_A$ Rρ2. The $GABA_B$ family is composed of $GABA_B$ R1α and $GABA_B$ R1β. GABA transporters have also been identified and include GABA T-1, GABA T-2 and GABA T-3 (also designated GAT-1, -2, and -3). The GABA transporters function to terminate GABA action.

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.

CHROMOSOMAL LOCATION

Genetic locus: GABRD (human) mapping to 1p36.33; Gabrd (mouse) mapping to 4 E2.

SOURCE

$GABA_A$ Rδ (H-100) is a rabbit polyclonal antibody raised against amino acids 331-430 mapping near the C-terminus of $GABA_A$ Rδ 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.

APPLICATIONS

$GABA_A$ Rδ (H-100) is recommended for detection of $GABA_A$ Rδ 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).

Suitable for use as control antibody for $GABA_A$ Rδ siRNA (h): sc-42443, $GABA_A$ Rδ siRNA (m): sc-42444, $GABA_A$ Rδ shRNA Plasmid (h): sc-42443-SH, $GABA_A$ Rδ shRNA Plasmid (m): sc-42444-SH, $GABA_A$ Rδ shRNA (h) Lentiviral Particles: sc-42443-V and $GABA_A$ Rδ shRNA (m) Lentiviral Particles: sc-42444-V.

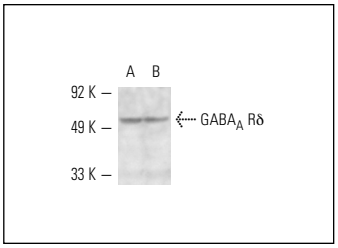
Molecular Weight of $GABA_A$ Rδ: 51 kDa.

Positive Controls: rat brain extract: sc-2392 or rat cerebellum extract: sc-2398.

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.

DATA



$GABA_A$ Rδ (H-100): sc-25705. Western blot analysis of $GABA_A$ Rδ expression in rat brain (**A**) and rat cerebellum (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Matsuoka, H., et al. 2008. Molecular mechanisms supporting a paracrine role of GABA in rat adrenal medullary cells. J. Physiol. 586: 4825-4842.
2. Hengen, K.B., et al. 2011. Changes in ventral respiratory column $GABA_a$R ε- and δ-subunits during hibernation mediate resistance to depression by EtOH and pentobarbital. Am. J. Physiol. Regul. Integr. Comp. Physiol. 300: R272-R283.

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 or our catalog for detailed protocols and support products.