SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_A$ Rδ (H-4): sc-271231

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. 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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

$GABA_A$ Rδ (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 381-417 at the C-terminus of $GABA_A$ Rδ 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.

$GABA_A$ Rδ (H-4) is available conjugated to agarose (sc-271231 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271231 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271231 PE), fluorescein (sc-271231 FITC), Alexa Fluor® 488 (sc-271231 AF488), Alexa Fluor® 546 (sc-271231 AF546), Alexa Fluor® 594 (sc-271231 AF594) or Alexa Fluor® 647 (sc-271231 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271231 AF680) or Alexa Fluor® 790 (sc-271231 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271231 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

$GABA_A$ Rδ (H-4) is recommended for detection of $GABA_A$ Rδ of mouse, rat and 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) 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.

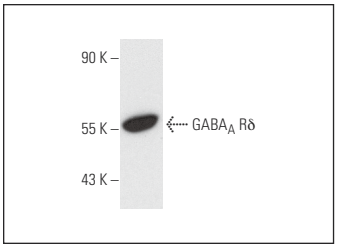
Molecular Weight of $GABA_A$ Rδ: 51 kDa.

Positive Controls: TE671 cell lysate: sc-2416 or Neuro-2A whole cell lysate: sc-364185.

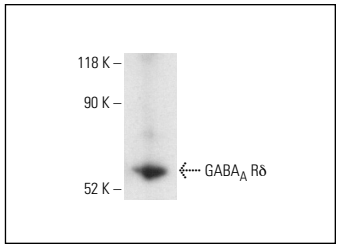
RECOMMENDED SUPPORT REAGENTS

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.

DATA



$GABA_A$ Rδ (H-4): sc-271231. Western blot analysis of $GABA_A$ Rδ expression in TE671 whole cell lysate.



$GABA_A$ Rδ (H-4) HRP: sc-271231 HRP. Direct western blot analysis of $GABA_A$ Rδ expression in Neuro-2A whole cell lysate.

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.