SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_A$ Rα1 (D-18): sc-31404

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.
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.

CHROMOSOMAL LOCATION

Genetic locus: GABRA1 (human) mapping to 5q34; Gabra1 (mouse) mapping to 11 A5.

SOURCE

$GABA_A$ Rα1 (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of $GABA_A$ Rα1 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.

Blocking peptide available for competition studies, sc-31404 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

$GABA_A$ Rα1 (D-18) is recommended for detection of $GABA_A$ Rα1 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).

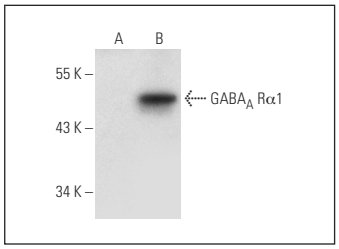
$GABA_A$ Rα1 (D-18) is also recommended for detection of $GABA_A$ Rα1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for $GABA_A$ Rα1 siRNA (h): sc-42425, $GABA_A$ Rα1 siRNA (m): sc-42426, $GABA_A$ Rα1 shRNA Plasmid (h): sc-42425-SH, $GABA_A$ Rα1 shRNA Plasmid (m): sc-42426-SH, $GABA_A$ Rα1 shRNA (h) Lentiviral Particles: sc-42425-V and $GABA_A$ Rα1 shRNA (m) Lentiviral Particles: sc-42426-V.

Molecular Weight of $GABA_A$ Rα1: 51 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, rat brain extract: sc: 2392 or $GABA_A$ Rα1 (h): 293T Lysate: sc-171608.

DATA



$GABA_A$ Rα1 (D-18): sc-31404. Western blot analysis of $GABA_A$ Rα1 expression in non-transfected: sc-117752 (**A**) and human $GABA_A$ Rα1 transfected: sc-171608 (**B**) 293T whole cell lysates.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **$GABA_A$ Rα1-6 (E-8): sc-376282**, our highly recommended monoclonal aternative to $GABA_A$ Rα1 (D-18).