SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_A$ Rβ1 (N-19): sc-7361

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.

CHROMOSOMAL LOCATION

Genetic locus: GABRB1 (human) mapping to 4p12; Gabrb1 (mouse) mapping to 5 C3.2.

SOURCE

$GABA_A$ Rβ1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of $GABA_A$ Rβ1 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-7361 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$GABA_A$ Rβ1 (N-19) is recommended for detection of $GABA_A$ Rβ1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

$GABA_A$ Rβ1 (N-19) is also recommended for detection of $GABA_A$ Rβ1 in additional species, including bovine and porcine.

Suitable for use as control antibody for $GABA_A$ Rβ1 siRNA (h): sc-42437, $GABA_A$ Rβ1 siRNA (m): sc-42438, $GABA_A$ Rβ1 shRNA Plasmid (h): sc-42437-SH, $GABA_A$ Rβ1 shRNA Plasmid (m): sc-42438-SH, $GABA_A$ Rβ1 shRNA (h) Lentiviral Particles: sc-42437-V and $GABA_A$ Rβ1 shRNA (m) Lentiviral Particles: sc-42438-V.

Molecular Weight of $GABA_A$ Rβ1: 59 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or mouse cerebellum extract: sc-2403.

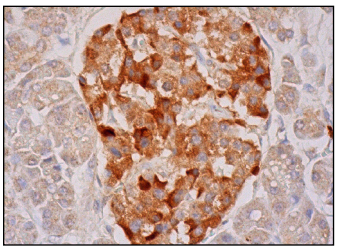
RESEARCH USE

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

STORAGE

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

DATA



$GABA_A$ Rβ1 (N-19): sc-7361. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Russek, S.J., et al. 2000. An initiator element mediates autologous downregulation of the human type A $GABA_A$ Rβ1 subunit gene. Proc. Natl. Acad. Sci. USA 97: 8600-8605.
2. Donzelli, M., et al. 2002. Dual mode of degradation of Cdc25 A phospha-tase. EMBO J. 21: 4875-4884.
3. Stewart, R.R., et al. 2002. Neural progenitor cells of the neonatal rat anterior subventricular zone express functional $GABA_A$ receptors. J. Neurobiol. 50: 305-322.
4. Griffiths, J., et al. 2005. Withdrawal from progesterone increases expression of α4, β1, and δ $GABA_A$ receptor subunits in neurons in the periaqueductal gray matter in female Wistar rats. J. Comp. Neurol. 486: 89-97.
5. Lovick, T.A., et al. 2005. Changes in $GABA_A$ receptor subunit expression in the midbrain during the oestrous cycle in Wistar rats. Neuroscience 131: 397-405.
6. Griffiths, J.L., et al. 2005. GABAergic neurones in the rat periaqueductal grey matter express α4, β1 and δ $GABA_A$ receptor subunits: plasticity of expression during the estrous cycle. Neuroscience 136: 457-466.

PROTOCOLS

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