SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_A$ Rβ2 (N-19): sc-7363

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. 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.
3. 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.

SOURCE

$GABA_A$ Rβ2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of $GABA_A$ Rβ2 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-7363 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$GABA_A$ Rβ2 (N-19) is recommended for detection of $GABA_A$ Rβ1, $GABA_A$ Rβ2 and $GABA_A$ Rβ3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

$GABA_A$ Rβ2 (N-19) is also recommended for detection of $GABA_A$ Rβ1, $GABA_A$ Rβ2 and $GABA_A$ Rβ3 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of $GABA_A$ Rβ2: 54-57 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Russek, S.J., et al. 2000. An initiator element mediates autologous down-regulation of the human type A γ-aminobutyric acid receptor β 1 subunit gene. Proc. Natl. Acad. Sci. USA 97: 8600-8605.
2. Nguyen, L., et al. 2003. Autocrine/paracrine activation of the $GABA_A$ receptor inhibits the proliferation of neurogenic polysialylated neural cell adhesion molecule-positive (PSA-NCAM+) precursor cells from postnatal striatum. J. Neurosci. 23: 3278-3294.
3. Heck, W.L., et al. 2003. Early $GABA_A$ receptor clustering during the development of the rostral nucleus of the solitary tract. J. Anat. 202: 387-396.
4. Roberts, S.S., et al. 2009. GABA receptor expression in benign and malignant thyroid tumors. Pathol. Oncol. Res. 15: 645-650.
5. Vidya Priyadarsini, R., et al. 2012. Aberrant activation of Wnt/β-catenin signaling pathway contributes to the sequential progression of DMBA-induced HBP carcinomas. Oral. Oncol. 48: 33-39.

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.