GABA$_A$ Rβ3 (C-20): sc-7364

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.

5. Lukasiewicz, P.D. 1996. GABA$_C$ receptors in the vertebrate retina. Mol. Neurobiol. 12: 181-194.

6. Kaupmann, K., et al. 1997. Expression cloning of GABA$_B$ receptors uncovers similarity to metabotropic glutamate receptors. Nature 386: 239-246.

7. Korpi, E.R., et al. 1997. GABA$_A$ receptor subtypes: clinical efficiency and selectivity of benzodiazepine site ligands. Ann. Med. 29: 275-282.

CHROMOSOMAL LOCATION

Genetic locus: GABRB3 (human) mapping to 15q12; Gabrb3 (mouse) mapping to 7 C.

SOURCE

GABA$_A$ Rβ3 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GABA$_A$ Rβ3 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-7364 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GABA$_A$ Rβ3 (C-20) is recommended for detection of GABA$_A$ Rβ3 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$_A$ Rβ3 (C-20) is also recommended for detection of GABA$_A$ Rβ3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GABA$_A$ Rβ3 siRNA (h): sc-42441, GABA$_A$ Rβ3 siRNA (m): sc-42442, GABA$_A$ Rβ3 shRNA Plasmid (h): sc-42441-SH, GABA$_A$ Rβ3 shRNA Plasmid (m): sc-42442-SH, GABA$_A$ Rβ3 shRNA (h) Lentiviral Particles: sc-42441-V and GABA$_A$ Rβ3 shRNA (m) Lentiviral Particles: sc-42442-V.

Molecular Weight of GABA$_A$ Rβ3: 45-60 kDa.

Positive Controls: GABA$_A$ Rβ3 (h): 293 Lysate: sc-111141, mouse testis extract: sc-2405 or EOC 20 whole cell lysate.

DATA
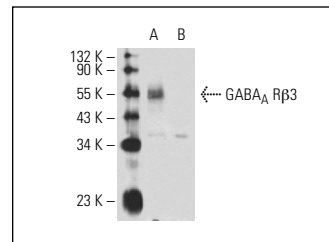
GABA$_A$ Rβ3 (C-20): sc-7364. Western blot analysis of GABA$_A$ Rβ3 expression in human GABA$_A$ Rβ3 transfected: sc-111141 (**A**) and non-transfected: sc-110760 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hong, J.J., et al. 2004. Microarray analysis in Tourette syndrome postmortem putamen. J. Neurol. Sci. 225: 57-64.

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.

MONOS
Satisfation
Guaranteed

Try **GABA$_A$ Rβ3 (D-12): sc-376252**, our highly recommended monoclonal alternative to GABA$_A$ Rβ3 (C-20).