SANTA CRUZ BIOTECHNOLOGY, INC.

GABA_C Rρ3 (Y-16): sc-22362



BACKGROUND

GAD-65 and GAD-67, glutamate decarboxylases, function to catalyze the production of GABA (y-aminobutyric acid). In the central nervous system GABA functions as the main inhibitory transmitter by increasing a CI- 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. GABA_C receptors (GABA_C Rp) mediate rapid inhibitory neurotransmission in retina. Three human genes, $\rho 1$ (GABRR1), $\rho 2$ (GABRR2) and $\rho 3$ (GABRR3), encode the three polypeptides that comprise this receptor. GABRR1 and GABRR2 are located close together, in a region of chromosome 6q that contains loci for inherited disorders of the eye, but GABRR3 maps to chromosome 3q11-q13.3. The ρ polypeptide genes, which are thought to share a common ancestor with GABAA receptor subunit genes, diverged at an early stage in the evolution of this gene family. The expression of GABA_C Rp subunits is not restricted to the retina, but significant expression can also be detected in many other brain regions, especially in those belonging to the visual pathways.

REFERENCES

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- 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 NH₂-terminal region of the 65 kDa isoform of glutamic acid decarboxylase. J. Biol. Chem. 270: 2241-2246.
- Lukasiewicz, P.D. 1996. GABA_C receptors in the vertebrate retina. Mol. Neurobiol. 12: 181-194.
- 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: Gabrr3 (mouse) mapping to 16 C1.3.

SOURCE

 $GABA_C R\rho 3$ (Y-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of $GABA_C R\rho 3$ of rat origin.

STORAGE

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

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22362 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GABA_C Rp3 (Y-16) is recommended for detection of GABA_C Rp3 of mouse and rat 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).

 $GABA_C R\rho 3$ (Y-16) is also recommended for detection of $GABA_C R\rho 3$ in additional species, including equine, canine and bovine.

Suitable for use as control antibody for GABA_C Rp3 siRNA (m): sc-42466, GABA_C Rp3 shRNA Plasmid (m): sc-42466-SH and GABA_C Rp3 shRNA (m) Lentiviral Particles: sc-42466-V.

Molecular Weight of GABA_C Rp3: 58 kDa.

Positive Controls: Rat testis extract: sc-2400.

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) Immunofluo-rescence: 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.

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.