



GABA_C Rp3 (R-110): sc-28793

BACKGROUND

GAD-65 and GAD-67, glutamate decarboxylases of 65 kDa and 67 kDa, respectively, function to catalyze the production of GABA (gamma-aminobutyric acid). In the central nervous system GABA (gamma-aminobutyric acid) 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. GABA_C receptors (GABA_C Rp) mediate rapid inhibitory neurotransmission in retina. Three human genes, r1 (GABRR1), r2 (GABRR2) and r3 (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 r polypeptide genes, which are thought to share a common ancestor with GABA_A 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

1. Bailey, M.E., et al. 1999. Genetic linkage and radiation hybrid mapping of the three human GABA(C) receptor rho subunit genes: GABRR1, GABRR2 and GABRR3. *Biochim. Biophys. Acta.* 1447: 307-312.
2. Wegelius, K., et al. 1998. Distribution of GABA receptor rho subunit transcripts in the rat brain. *Eur. J. Neurosci.* 10: 350-357.
3. Boue-Grabot, E., et al. 1998. Expression of GABA receptor rho subunits in rat brain. *J. Neurochem.* 70: 899-907.
4. Kaupmann, K., et al. 1997. Expression cloning of GABA(B) receptors uncovers similarity to metabotropic glutamate receptors. *Nature.* 386: 239-246.
5. Lukasiewicz, P.D. 1996. GABA_C receptors in the vertebrate retina. *Mol. Neurobiol.* 12: 181-194.
6. Dirx, 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.
7. Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early postnatal life. *Trends Neurosci.* 14: 515-519.

SOURCE

GABA_C Rp3 (R-110) is a rabbit polyclonal antibody raised against amino acids 355-464 mapping at the C-terminus of GABA_C Rp3 of rat origin.

PRODUCT

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

APPLICATIONS

GABA_C Rp3 (R-110) 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), 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).

Suitable for use as control antibody for GABA_C Rp3 siRNA (m): sc-42466.

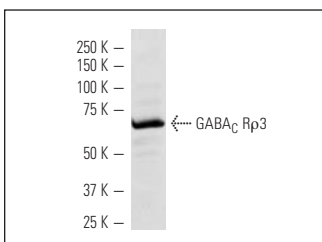
Molecular Weight of GABA_C Rp3: 58 kDa.

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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GABA_C Rp3 (R-110): sc-28793. Western blot analysis of GABA_C Rp3 expression in rat testis tissue extract.

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.