

GABA_A Rp1 (C-20): sc-16879

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 Rβ1-3, GABA_A Ry1-3, GABA_A Rδ, GABA_A Rε, GABA_A Rp1 and GABA_A Rp2. 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. Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early postnatal life. *Trends Neurosci.* 14: 515-519.
2. 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.
3. Lukasiewicz, P.D. 1996. GABA_C receptors in the vertebrate retina. *Mol. Neurobiol.* 12: 181-194.
4. Kaupmann, K., et al. 1997. Expression cloning of GABA_B receptors uncovers similarity to metabotropic glutamate receptors. *Nature* 386: 239-246.
5. Wegelius, K., et al. 1998. Distribution of GABA receptor ρ subunit transcripts in the rat brain. *Eur. J. Neurosci.* 10: 350-357.
6. Boue-Grabot, E., et al. 1998. Expression of GABA receptor ρ subunits in rat brain. *J. Neurochem.* 70: 899-907.
7. Bailey, M.E., et al. 1999. Genetic linkage and radiation hybrid mapping of the three human GABA_C receptor ρ subunit genes: GABRR1, GABRR2 and GABRR3. *Biochim. Biophys. Acta* 1447: 307-312.

CHROMOSOMAL LOCATION

Genetic locus: GABRR1 (human) mapping to 6q15; Gabrr1 (mouse) mapping to 4 A5.

SOURCE

GABA_A Rp1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GABA_A Rp1 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-16879 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GABA_A Rp1 (C-20) is recommended for detection of GABA_A receptor ρ1 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 Rp1 (C-20) is also recommended for detection of GABA_A receptor ρ1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for GABA_A Rp1 siRNA (h): sc-42457, GABA_A Rp1 siRNA (m): sc-42458, GABA_A Rp1 shRNA Plasmid (h): sc-42457-SH, GABA_A Rp1 shRNA Plasmid (m): sc-42458-SH, GABA_A Rp1 shRNA (h) Lentiviral Particles: sc-42457-V and GABA_A Rp1 shRNA (m) Lentiviral Particles: sc-42458-V.

Molecular Weight of GABA_A Rp1: 48 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410.

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. Mejía, C., et al. 2008. Expression of GABA_ρ subunits during rat cerebellum development. *Neurosci. Lett.* 432: 1-6.

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.