

GABA_A R π (C-19): sc-17714

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 R α 1-6, GABA_A R β 1-3, GABA_A R γ 1-3, GABA_A R δ , GABA_A R ϵ , GABA_A R ρ 1 and GABA_A R ρ 2 and GABA_A R π . In the uterus, the function of the π receptor appears to be related to tissue contractility. The binding of this π subunit with other GABA_A receptor subunits alters the sensitivity of recombinant receptors to modulatory agents such as pregnanolone.

REFERENCES

- Nelson, H., et al. 1990. Cloning of the human brain GABA transporter. *FEBS Lett.* 269: 181-184.
- Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early postnatal life. *Trends Neurosci.* 14: 515-519.
- 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.
- 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.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: GABRP (human) mapping to 5q35.1; Gabrp (mouse) mapping to 11 A4.

SOURCE

GABA_A R π (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GABA_A R π of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-17714 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

GABA_A R π (C-19) is recommended for detection of GABA_A R π of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 R π (C-19) is also recommended for detection of GABA_A R π in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GABA_A R π siRNA (h): sc-43788, GABA_A R π shRNA Plasmid (h): sc-43788-SH and GABA_A R π shRNA (h) Lentiviral Particles: sc-43788-V.

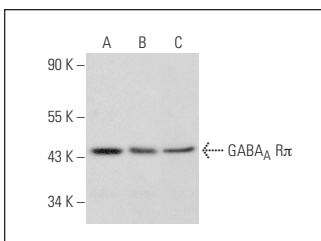
Molecular Weight of GABA_A R π : 50 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, PC-3 cell lysate: sc-2220 or SHP-77 whole cell lysate: sc-364258.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GABA_A R π (C-19): sc-17714. Western blot analysis of GABA_A R π expression in Caki-1 (A), PC-3 (B) and SHP-77 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Jin, N., et al. 2008. Ionotropic GABA receptor expression in the lung during development. *Gene Expr. Patterns* 8: 397-403.

STORAGE

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