



# GABA<sub>A</sub> Rp1 (C-19): sc-21338

## BACKGROUND

GAD-65 and GAD-67, glutamate decarboxylases function to catalyze the production of GABA ( $\gamma$ -aminobutyric acid). In the central nervous system GABA functions as the main inhibitory transmitter by increasing a Cl<sup>-</sup> conductance that inhibits neuronal firing. GABA has been shown to activate both ionotropic (GABA<sub>A</sub>) and metabotropic (GABA<sub>B</sub>) receptors as well as a third class of receptors called GABA<sub>C</sub>. Both GABA<sub>A</sub> and GABA<sub>C</sub> are ligand-gated ion channels, however, they are structurally and functionally distinct. Members of the GABA<sub>A</sub> receptor family include GABA<sub>A</sub> R $\alpha$ 1-6, GABA<sub>A</sub> R  $\beta$ 1-3, GABA<sub>A</sub> R $\gamma$ 1-3, GABA<sub>A</sub> R $\delta$ , GABA<sub>A</sub> R $\epsilon$ , GABA<sub>A</sub> Rp1 and GABA<sub>A</sub> Rp2. The GABA<sub>B</sub> family is composed of GABA<sub>B</sub> R1 $\alpha$  and GABA<sub>B</sub> R1 $\beta$ . 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 NH<sub>2</sub>-terminal region of the 65-kDa isoform of glutamic acid decarboxylase. *J. Biol. Chem.* 270: 2241-2246.
3. Lukasiewicz, P.D. 1996. GABA<sub>C</sub> receptors in the vertebrate retina. *Mol. Neurobiol.* 12: 181-194.
4. Kaupmann, K., et al. 1997. Expression cloning of GABA<sub>B</sub> receptors uncovers similarity to metabotropic glutamate receptors. *Nature* 386: 239-246.
5. Wegelius, K., et al. 1998. Distribution of GABA receptor  $\rho$  subunit transcripts in the rat brain. *Eur. J. Neurosci.* 10: 350-357.
6. Boue-Grabot, E., et al. 1998. Expression of GABA receptor  $\rho$  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<sub>C</sub> receptor  $\rho$  subunit genes: GABRR1, GABRR2 and GABRR3. *Biochim. Biophys. Acta* 1447: 307-312.

## SOURCE

GABA<sub>A</sub> Rp1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GABA<sub>A</sub> Rp1 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-21338 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

GABA<sub>A</sub> Rp1 (C-19) is recommended for detection of GABA<sub>A</sub> Rp1 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).

Molecular Weight of GABA<sub>A</sub> Rp1: 48 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or KNRK whole cell lysate: sc-2214.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.