

# GABA<sub>A</sub> R $\alpha$ 6 (B-22): sc-135680

## 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> R $\rho$ 1 and GABA<sub>A</sub> R $\rho$ 2. 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

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- Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early postnatal life. *Trends Neurosci.* 14: 515-519.
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- 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.
- Lukasiewicz, P.D. 1996. GABA<sub>C</sub> receptors in the vertebrate retina. *Mol. Neurobiol.* 12: 181-194.
- Kaupmann, K., et al. 1997. Expression cloning of GABA<sub>B</sub> receptors uncovers similarity to metabotropic glutamate receptors. *Nature* 386: 239-246.
- Korpi, E.R., et al. 1997. GABA<sub>A</sub>-receptor subtypes: clinical efficiency and selectivity of benzodiazepine site ligands. *Ann. Med.* 29: 275-282.

## CHROMOSOMAL LOCATION

Genetic locus: *Gabra6* (mouse) mapping to 11 A5.

## SOURCE

GABA<sub>A</sub> R $\alpha$ 6 (B-22) is an affinity purified rabbit polyclonal antibody raised against a fusion protein from the cytoplasmic loop of GABA<sub>A</sub> R $\alpha$ 6 of rat origin.

## PRODUCT

Each vial contains IgG in 100  $\mu$ l of 10 mM HEPES with 150 mM NaCl, 50% glycerol and < 0.1% BSA.

## PROTOCOLS

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

## APPLICATIONS

GABA<sub>A</sub> R $\alpha$ 6 (B-22) is recommended for detection of GABA<sub>A</sub> R $\alpha$ 6 of mouse and rat origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000) and immunoprecipitation [1-2  $\mu$ l per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

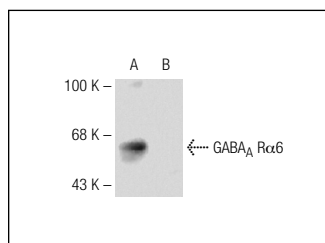
Suitable for use as control antibody for GABA<sub>A</sub> R $\alpha$ 6 siRNA (m): sc-42436, GABA<sub>A</sub> R $\alpha$ 6 shRNA Plasmid (m): sc-42436-SH and GABA<sub>A</sub> R $\alpha$ 6 shRNA (m) Lentiviral Particles: sc-42436-V.

Positive Controls: mouse forebrain tissue.

## 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).

## DATA



GABA<sub>A</sub> R $\alpha$ 6 (B-22): sc-135680. Western blot analysis of GABA<sub>A</sub> R $\alpha$ 6 expression in mouse forebrain tissue extract from wild type (A) and  $\alpha$ 6-subunit-knockout (B) mice.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## RESEARCH USE

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

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Try **GABA<sub>A</sub> R $\alpha$ 1-6 (E-8): sc-376282**, our highly recommended monoclonal alternative to GABA<sub>A</sub> R $\alpha$ 6 (B-22). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **GABA<sub>A</sub> R $\alpha$ 1-6 (E-8): sc-376282**.