

# GABA<sub>A</sub> Rβ3 (D-16): sc-31431

## 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<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> Rα1-6, GABA<sub>A</sub> R β1-3, GABA<sub>A</sub> Rγ1-3, GABA<sub>A</sub> Rδ, GABA<sub>A</sub> Rε, GABA<sub>A</sub> Rρ1 and GABA<sub>A</sub> Rρ2. The GABA<sub>B</sub> family is composed of GABA<sub>B</sub> R1α and GABA<sub>B</sub> 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

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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.
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## CHROMOSOMAL LOCATION

Genetic locus: GABRB3 (human) mapping to 15q12; Gabrb3 (mouse) mapping to 7 C.

## SOURCE

GABA<sub>A</sub> Rβ3 (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of GABA<sub>A</sub> Rβ3 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-31431 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GABA<sub>A</sub> Rβ3 (D-16) is recommended for detection of GABA<sub>A</sub> Rβ3 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<sub>A</sub> Rβ3 (D-16) is also recommended for detection of GABA<sub>A</sub> Rβ3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GABA<sub>A</sub> Rβ3 siRNA (h): sc-42441, GABA<sub>A</sub> Rβ3 siRNA (m): sc-42442, GABA<sub>A</sub> Rβ3 shRNA Plasmid (h): sc-42441-SH, GABA<sub>A</sub> Rβ3 shRNA Plasmid (m): sc-42442-SH, GABA<sub>A</sub> Rβ3 shRNA (h) Lentiviral Particles: sc-42441-V and GABA<sub>A</sub> Rβ3 shRNA (m) Lentiviral Particles: sc-42442-V.

Molecular Weight of GABA<sub>A</sub> Rβ3: 45-60 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187.

## 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.

## 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

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