

GABA_A R α 1 (T-17): sc-31403

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. The GABA_B family is composed of GABA_B R1 α and GABA_B R1 β . 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. Nelson, H., et al. 1990. Cloning of the human brain GABA transporter. FEBS Lett. 269: 181-184.
2. Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early post-natal life. Trends Neurosci. 14: 515-519.
3. 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.
4. 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.
5. Lukasiewicz, P.D. 1996. GABA_C receptors in the vertebrate retina. Mol. Neurobiol. 12: 181-194.
6. 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: GABRA1 (human) mapping to 5q34, GABRA3 (human) mapping to Xq28; Gabra1 (mouse) mapping to 11 A5, Gabra3 (mouse) mapping to X A7.3.

SOURCE

GABA_A R α 1 (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of GABA_A R α 1 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-31403 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 α 1 (T-17) is recommended for detection of GABA_A R α 1, and to a lesser extent, GABA_A R α 3 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 α 1 (T-17) is also recommended for detection of GABA_A R α 1, and to a lesser extent, GABA_A R α 3 in additional species, including equine, canine, bovine, porcine and avian.

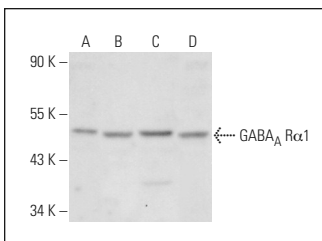
Molecular Weight of GABA_A R α 1: 51 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, Ramos cell lysate: sc-2216 or U-87 MG cell lysate: sc-2411.

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 α 1 (T-17): sc-31403. Western blot analysis of GABA_A R α 1 expression in Ramos (A), Daoy (B), U-87 MG (C) and Raji (D) whole cell lysates.

STORAGE

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

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Try **GABA_A R α 1-6 (E-8): sc-376282**, our highly recommended monoclonal alternative to GABA_A R α 1 (T-17).