

GABA_A R α 1 (N-19): sc-7348

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.

CHROMOSOMAL LOCATION

Genetic locus: GABRA1 (human) mapping to 5q34; Gabra1 (mouse) mapping to 11 A5.

SOURCE

GABA_A R α 1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus 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-7348 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GABA_A R α 1 (N-19) is recommended for detection of GABA_A R α 1 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); may cross-react with GABA_A R α 2, GABA_A R α 3 and GABA_A R α 5; also reactive with additional mammalian species, including bovine.

GABA_A R α 1 (N-19) is also recommended for detection of GABA_A R α 1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for GABA_A R α 1 siRNA (h): sc-42425, GABA_A R α 1 siRNA (m): sc-42426, GABA_A R α 1 shRNA Plasmid (h): sc-42425-SH, GABA_A R α 1 shRNA Plasmid (m): sc-42426-SH, GABA_A R α 1 shRNA (h) Lentiviral Particles: sc-42425-V and GABA_A R α 1 shRNA (m) Lentiviral Particles: sc-42426-V.

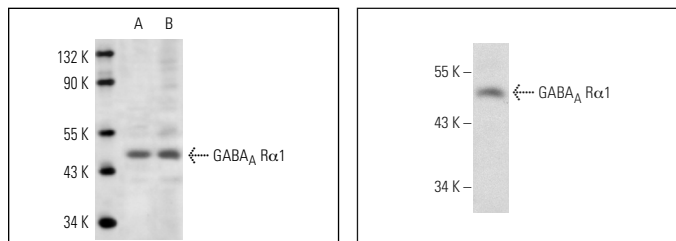
Molecular Weight of GABA_A R α 1: 51 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

STORAGE

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

DATA



GABA_A R α 1 (N-19): sc-7348. Western blot analysis of GABA_A R α 1 expression in mouse cerebellum (A) and rat brain (B) tissue extracts.

GABA_A R α 1 (N-19): sc-7348. Western blot analysis of GABA_A R α 1 expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

- Churn, S.B., et al. 2002. Calcium/calmodulin-dependent kinase II phosphorylation of the GABA_A receptor α 1 subunit modulates benzodiazepine binding. *J. Neurochem.* 82: 1065-1076.
- Hu, J.H., et al. 2002. Subunit composition and function of GABA_A receptors of rat spermatozoa. *Neurochem. Res.* 27: 195-199.
- Foley, C.M., et al. 2003. GABA_A α 1 and α 2 receptor subunit expression in rostral ventrolateral medulla in nonpregnant and pregnant rats. *Brain Res.* 975: 196-206.
- Ferrer, I. and Puig, B. 2003. GluR2/3, NMDA ϵ 1 and GABA_A receptors in Creutzfeldt-Jakob disease. *Acta Neuropathol.* 106: 311-318.
- Delgado, L., et al. 2008. Immunohistochemical localization of GABA, GAD-65, and the receptor subunits GABA_A α 1 and GABA_B1 in the zebrafish cerebellum. *Cerebellum* 7: 444-450.
- Huo, F.Q., et al. 2009. Synaptic connections between GABAergic elements and serotonergic terminals or projecting neurons in the ventrolateral orbital cortex. *Cereb. Cortex* 19: 1263-1272.
- Delgado, L.M., et al. 2009. The GABAergic system in the retina of neonate and adult *Octodon degus*, studied by immunohistochemistry and electroretinography. *J. Comp. Neurol.* 514: 459-472.

RESEARCH USE

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



Try **GABA_A R α 1-6 (E-8): sc-376282**, our highly recommended monoclonal alternative to GABA_A R α 1 (N-19).