

GABA_A R α 5 (A-5): sc-393921

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

- Nelson, H., et al. 1990. Cloning of the human brain GABA transporter. FEBS Lett. 269: 181-184.
- Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early postnatal life. Trends Neurosci. 14: 515-519.
- 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.
- Dirkx, 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.

CHROMOSOMAL LOCATION

Genetic locus: GABRA5 (human) mapping to 15q12.

SOURCE

GABA_A R α 5 (A-5) is a mouse monoclonal antibody raised against amino acids 356-415 mapping near the C-terminus of GABA_A R α 5 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GABA_A R α 5 (A-5) is available conjugated to agarose (sc-393921 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393921 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393921 PE), fluorescein (sc-393921 FITC), Alexa Fluor[®] 488 (sc-393921 AF488), Alexa Fluor[®] 546 (sc-393921 AF546), Alexa Fluor[®] 594 (sc-393921 AF594) or Alexa Fluor[®] 647 (sc-393921 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393921 AF680) or Alexa Fluor[®] 790 (sc-393921 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

GABA_A R α 5 (A-5) is recommended for detection of GABA_A R α 5 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for GABA_A R α 5 siRNA (h): sc-42433, GABA_A R α 5 shRNA Plasmid (h): sc-42433-SH and GABA_A R α 5 shRNA (h) Lentiviral Particles: sc-42433-V.

Molecular Weight of GABA_A R α 5: 55 kDa.

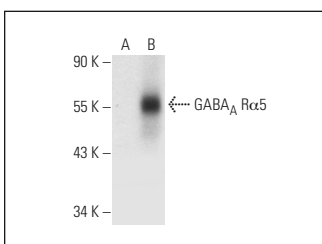
Positive Controls: GABA_A R α 5 (h): 293T Lysate: sc-111120.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



GABA_A R α 5 (A-5): sc-393921. Western blot analysis of GABA_A R α 5 expression in non-transfected: sc-117752 (A) and human GABA_A R α 5 transfected: sc-111120 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Zhang, W., et al. 2022. *Lactobacillus reuteri* normalizes altered fear memory in male Cntnap4 knockout mice. EBioMedicine 86: 104323.
- Gironda, S.C., et al. 2022. Ethanol exposure alters Alzheimer's-related pathology, behavior, and metabolism in APP/PS1 mice. Neurobiol. Dis. 177: 105967.

STORAGE

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