

GABA_B R1 (D-2): sc-166408

BACKGROUND

In the central nervous system (CNS), γ -aminobutyric acid (GABA) is the main inhibitory neurotransmitter that functions to regulate neuronal firing. GABA exerts its effects through two different kinds of receptors: ionotropic receptors (GABA_A R and GABA_C R), which produce fast inhibitory signals, and metabotropic receptors (GABA_B R), which produce slow inhibitory signals. The GABA_B R receptor is a heterodimer that consists of two multi-pass membrane proteins, designated GABA_B R1 and GABA_B R2, both of which belong to the G protein-coupled receptor family and are highly expressed in brain tissue. Together, GABA_B R1 and GABA_B R2 play a crucial role in the fine-tuning of inhibitory synaptic transmissions and are implicated in slow wave sleep, muscle relaxation, hippocampal long-term potentiation and antinociception events. Both GABA_B R1 and GABA_B R2 are regulated by G proteins that have a variety of functions, including activation of potassium channels, inhibition of adenylyl cyclase (A cyclase) activity and modulation of inositol phospholipid hydrolysis.

CHROMOSOMAL LOCATION

Genetic locus: GABBR1 (human) mapping to 6p22.1; Gabbr1 (mouse) mapping to 17 B1.

SOURCE

GABA_B R1 (D-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 929-958 at the C-terminus of GABA_B R1 of rat 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_B R1 (D-2) is available conjugated to agarose (sc-166408 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166408 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166408 PE), fluorescein (sc-166408 FITC), Alexa Fluor® 488 (sc-166408 AF488), Alexa Fluor® 546 (sc-166408 AF546), Alexa Fluor® 594 (sc-166408 AF594) or Alexa Fluor® 647 (sc-166408 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166408 AF680) or Alexa Fluor® 790 (sc-166408 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166408 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

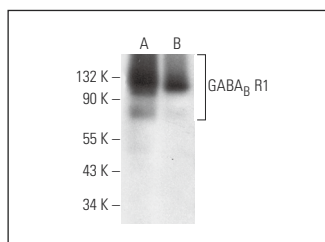
GABA_B R1 (D-2) is recommended for detection of GABA_B R1 α and GABA_B R1 β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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_B R1 siRNA (h): sc-42459, GABA_B R1 siRNA (m): sc-42460, GABA_B R1 shRNA Plasmid (h): sc-42459-SH, GABA_B R1 shRNA Plasmid (m): sc-42460-SH, GABA_B R1 shRNA (h) Lentiviral Particles: sc-42459-V and GABA_B R1 shRNA (m) Lentiviral Particles: sc-42460-V.

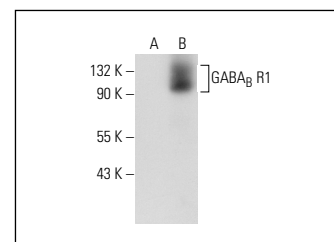
Molecular Weight of GABA_B R1: 130 kDa.

Positive Controls: GABA_B R1 (h2): 293T Lysate : sc-116203, rat brain extract: sc-2392 or rat cerebellum extract: sc-2398.

DATA



GABA_B R1 (D-2): sc-166408. Western blot analysis of GABA_B R1 expression in rat brain (A) and rat cerebellum (B) tissue extracts.



GABA_B R1 (D-2): sc-166408. Western blot analysis of GABA_B R1 expression in non-transfected: sc-117752 (A) and human GABA_B R1 transfected: sc-116203 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Cain, S.M., et al. 2017. GABA_B receptors suppress burst-firing in reticular thalamic neurons. *Channels* 11: 574-586.
- Matos, M., et al. 2018. Astrocytes detect and upregulate transmission at inhibitory synapses of somatostatin interneurons onto pyramidal cells. *Nat. Commun.* 9: 4254.
- Martín-Belmonte, A., et al. 2020. Reduction in the neuronal surface of post and presynaptic GABA_B receptors in the hippocampus in a mouse model of Alzheimer's disease. *Brain Pathol.* 30: 554-575.
- Lauriano, E.R., et al. 2021. Neuroepithelial cells (NECs) and mucous cells express a variety of neurotransmitters and neurotransmitter receptors in the gill and respiratory air-sac of the catfish *Heteropneustes fossilis* (Siluriformes, Heteropneustidae): a possible role in local immune defence. *Zoology* 148: 125958.
- Zhang, W., et al. 2022. *Lactobacillus reuteri* normalizes altered fear memory in male Cntnap4 knockout mice. *EBioMedicine* 86: 104323.

RESEARCH USE

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