

GABA_B R2 (H-10): sc-393270

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.

REFERENCES

- White, J.H., et al. 2000. The GABA_B receptor interacts directly with the related transcription factors CREB2 and ATFx. *Proc. Natl. Acad. Sci. USA* 97: 13967-13972.
- Balasubramanian, S., et al. 2004. Hetero-oligomerization between GABA_A and GABA_B receptors regulates GABA_B receptor trafficking. *J. Biol. Chem.* 279: 18840-18850.
- Brock, C., et al. 2005. Assembly-dependent surface targeting of the heterodimeric GABA_B receptor is controlled by COPI but not 14-3-3. *Mol. Biol. Cell* 16: 5572-5578.

CHROMOSOMAL LOCATION

Genetic locus: GABBR2 (human) mapping to 9q22.33; Gabbr2 (mouse) mapping to 4 B1.

SOURCE

GABA_B R2 (H-10) is a mouse monoclonal antibody raised against amino acids 183-482 mapping within an extracellular domain of GABA_B R2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GABA_B R2 (H-10) is available conjugated to agarose (sc-393270 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393270 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393270 PE), fluorescein (sc-393270 FITC), Alexa Fluor[®] 488 (sc-393270 AF488), Alexa Fluor[®] 546 (sc-393270 AF546), Alexa Fluor[®] 594 (sc-393270 AF594) or Alexa Fluor[®] 647 (sc-393270 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393270 AF680) or Alexa Fluor[®] 790 (sc-393270 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GABA_B R2 (H-10) is recommended for detection of GABA_B R2 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).

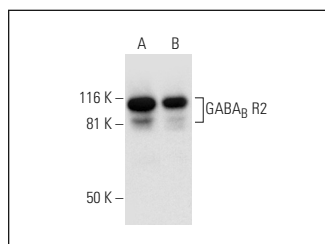
GABA_B R2 (H-10) is also recommended for detection of GABA_B R2 in additional species, including canine.

Suitable for use as control antibody for GABA_B R2 siRNA (h): sc-42463, GABA_B R2 siRNA (m): sc-42464, GABA_B R2 shRNA Plasmid (h): sc-42463-SH, GABA_B R2 shRNA Plasmid (m): sc-42464-SH, GABA_B R2 shRNA (h) Lentiviral Particles: sc-42463-V and GABA_B R2 shRNA (m) Lentiviral Particles: sc-42464-V.

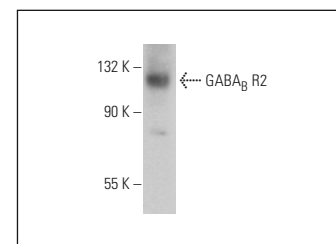
Molecular Weight of GABA_B R2: 106 kDa.

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

DATA



GABA_B R2 (H-10): sc-393270. Western blot analysis of GABA_B R2 expression in mouse brain (A) and rat brain (B) tissue extracts.



GABA_B R2 (H-10): sc-393270. Western blot analysis of GABA_B R2 expression in mouse cerebellum tissue extract. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

- Mariotti, L., et al. 2018. Interneuron-specific signaling evokes distinctive somatostatin-mediated responses in adult cortical astrocytes. *Nat. Commun.* 9: 82.
- Zhao, X.H., et al. 2020. Clinical features and outcomes of Chinese patients with anti- γ -aminobutyric acid B receptor encephalitis. *Exp. Ther. Med.* 20: 617-622.

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

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