

GABA_B R2 (E-16): sc-22322

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.
- Osawa, Y., et al. 2006. Functional expression of the GABA_B receptor in human airway smooth muscle. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 291: L923-L931.

CHROMOSOMAL LOCATION

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

SOURCE

GABA_B R2 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GABA_B R2 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-22322 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GABA_B R2 (E-16) is recommended for detection of GABA_B R2 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_B R2 (E-16) is also recommended for detection of GABA_B R2 in additional species, including equine, canine, bovine, porcine and avian.

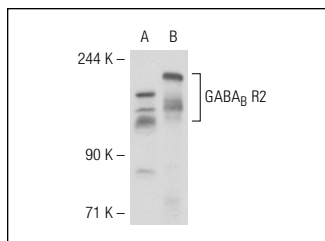
Suitable for use as control antibody for GABA_B R2 siRNA (h): sc-42463, GABA_B R2 siRNA (m): sc-42464, GABA_B R2 shRNA Plasmid (h): sc-42463-SH, GABA_B R2 shRNA Plasmid (m): sc-42464-SH, GABA_B R2 shRNA (h) Lentiviral Particles: sc-42463-V and GABA_B R2 shRNA (m) Lentiviral Particles: sc-42464-V.

Molecular Weight of GABA_B R2: 105 kDa.

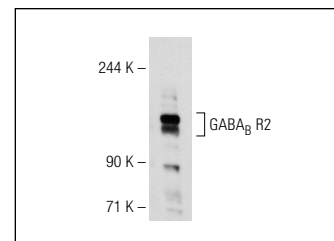
Molecular Weight of glycosylated GABA_B R2: 130 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, mouse brain extract: sc-2253 or rat cerebellum extract: sc-2398.

DATA



GABA_B R2 (E-16): sc-22322. Western blot analysis of GABA_B R2 expression in 293T whole cell lysate (A) and mouse brain tissue extract (B).



GABA_B R2 (E-16): sc-22322. Western blot analysis of GABA_B R2 expression in IMR-32 whole cell lysate.

SELECT PRODUCT CITATIONS

- Roberts, S.S., et al. 2009. GABA receptor expression in benign and malignant thyroid tumors. *Pathol. Oncol. Res.* 15: 645-650.

RESEARCH USE

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

PROTOCOLS

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

MONOS
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Try **GABA_B R2 (H-10): sc-393270** or **GABA_B R2 (1): sc-136365**, our highly recommended monoclonal alternatives to GABA_B R2 (E-16).