

# GABA<sub>B</sub> R2 (H-300): sc-28792

## BACKGROUND

In the central nervous system (CNS),  $\gamma$ -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<sub>A</sub> and GABA<sub>C</sub>), which produce fast inhibitory signals, and metabotropic receptors (GABA<sub>B</sub>), which produce slow inhibitory signals. The GABA<sub>B</sub> R receptor is a heterodimer that consists of two multi-pass membrane proteins, designated GABA<sub>B</sub> R1 and GABA<sub>B</sub> R2, both of which belong to the G protein-coupled receptor family and are highly expressed in brain tissue. Together, GABA<sub>B</sub> R1 and GABA<sub>B</sub> 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<sub>B</sub> R1 and GABA<sub>B</sub> R2 are regulated by G proteins that have a variety of functions, including activation of potassium channels, inhibition of adenyl cyclase (A cyclase) activity and modulation of inositol phospholipid hydrolysis.

## REFERENCES

- White, J.H., et al. 2000. The GABA<sub>B</sub> receptor interacts directly with the related transcription factors CREB2 and ATFx. *Proc. Natl. Acad. Sci. USA* 7: 13967-13972.
- Balasubramanian, S., et al. 2004. Hetero-oligomerization between GABA<sub>A</sub> and GABA<sub>B</sub> receptors regulates GABA<sub>B</sub> receptor trafficking. *J. Biol. Chem.* 279: 18840-18850.
- Brock, C., et al. 2005. Assembly-dependent surface targeting of the heterodimeric GABA<sub>B</sub> 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<sub>B</sub> 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<sub>B</sub> R2 (H-300) is a rabbit polyclonal antibody raised against amino acids 183-482 mapping within an extracellular domain of GABA<sub>B</sub> R2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

## APPLICATIONS

GABA<sub>B</sub> R2 (H-300) is recommended for detection of GABA<sub>B</sub> R2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

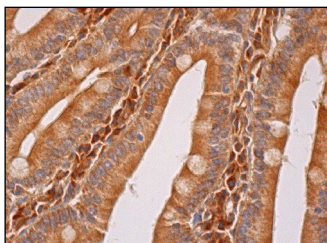
GABA<sub>B</sub> R2 (H-300) is also recommended for detection of GABA<sub>B</sub> R2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for GABA<sub>B</sub> R2 siRNA (h): sc-42463, GABA<sub>B</sub> R2 siRNA (m): sc-42464, GABA<sub>B</sub> R2 shRNA Plasmid (h): sc-42463-SH, GABA<sub>B</sub> R2 shRNA Plasmid (m): sc-42464-SH, GABA<sub>B</sub> R2 shRNA (h) Lentiviral Particles: sc-42463-V and GABA<sub>B</sub> R2 shRNA (m) Lentiviral Particles: sc-42464-V.

Molecular Weight of GABA<sub>B</sub> R2: 130 kDa.

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

## DATA



GABA<sub>B</sub> R2 (H-300): sc-28792. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Heskin-Sweezie, R., et al. 2010. Type B GABA receptors contribute to the restoration of balance during vestibular compensation in mice. *Neuroscience* 169: 302-314.
- Kurokawa, K., et al. 2012. Increase of ryanodine receptors by dopamine D1 receptors is negatively regulated by  $\gamma$ -aminobutyric acid type B receptors in primary cultures of mouse cerebral cortical neurons. *J. Neurosci. Res.* 90: 1626-1638.

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Try **GABA<sub>B</sub> R2 (H-10): sc-393270** or **GABA<sub>B</sub> R2 (1): sc-136365**, our highly recommended monoclonal alternatives to GABA<sub>B</sub> R2 (H-300).