

# GABA<sub>B</sub> R1 (R-300): sc-14006

## BACKGROUND

In the central nervous system (CNS),  $\gamma$ -aminobutyric acid (GABA) is the main 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> R and GABA<sub>C</sub> R), which produce fast inhibitory signals, and metabotropic receptors (GABA<sub>B</sub> R), 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

GABA<sub>B</sub> R1 (R-300) is a rabbit polyclonal antibody raised against amino acids 661-991 mapping at the C-terminus of GABA<sub>B</sub> R1 of rat origin.

## PRODUCT

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

## APPLICATIONS

GABA<sub>B</sub> R1 (R-300) is recommended for detection of GABA<sub>B</sub> R1 $\alpha$  and GABA<sub>B</sub> R1 $\beta$  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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GABA<sub>B</sub> R1 (R-300) is also recommended for detection of GABA<sub>B</sub> R1 $\alpha$  and GABA<sub>B</sub> R1 $\beta$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GABA<sub>B</sub> R1 siRNA (h): sc-42459, GABA<sub>B</sub> R1 siRNA (m): sc-42460, GABA<sub>B</sub> R1 shRNA Plasmid (h): sc-42459-SH, GABA<sub>B</sub> R1 shRNA Plasmid (m): sc-42460-SH, GABA<sub>B</sub> R1 shRNA (h) Lentiviral Particles: sc-42459-V and GABA<sub>B</sub> R1 shRNA (m) Lentiviral Particles: sc-42460-V.

Molecular Weight of GABA<sub>B</sub> R1: 130 kDa.

Positive Controls: GABA<sub>B</sub> R1 (h2): 293T Lysate: sc-116203, IMR-32 cell lysate: sc-2409 or HeLa nuclear extract: sc-2120.

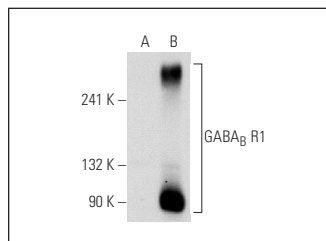
## RESEARCH USE

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

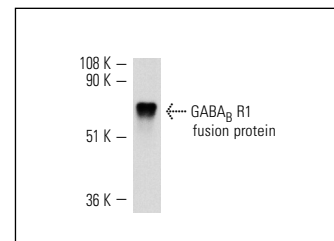
## STORAGE

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

## DATA



GABA<sub>B</sub> R1 (R-300): sc-14006. Western blot analysis of GABA<sub>B</sub> R1 expression in non-transfected: sc-117752 (A) and human GABA<sub>B</sub> R1 transfected: sc-116203 (B) 293T whole cell lysates.



GABA<sub>B</sub> R1 (R-300): sc-14006. Western blot analysis of rat recombinant GABA<sub>B</sub> R1 fusion protein.

## SELECT PRODUCT CITATIONS

1. Fava, G., et al. 2005.  $\gamma$ -Aminobutyric acid inhibits cholangiocarcinoma growth by cyclic AMP-dependent regulation of the protein kinase A/ extracellular signal-regulated kinase 1/2 pathway. *Cancer Res.* 65: 11437-11446.
2. 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.
3. Mizuta, K., et al. 2008. Functional expression of GABA<sub>B</sub> receptors in airway epithelium. *Am. J. Respir. Cell Mol. Biol.* 39: 296-304.
4. Bartoi, T., et al. 2010. GABA<sub>B</sub> receptor constituents revealed by tandem affinity purification from transgenic mice. *J. Biol. Chem.* 285: 20625-20633.
5. Tu, H., et al. 2010. GABA<sub>B</sub> receptor activation protects neurons from apoptosis via IGF-1 receptor transactivation. *J. Neurosci.* 30: 749-759.
6. Boronat, A., et al. 2011. GABA<sub>B</sub> receptor antibodies in limbic encephalitis and anti-GAD-associated neurologic disorders. *Neurology* 76: 795-800.
7. Laffray, S., et al. 2012. Impairment of GABA<sub>B</sub> receptor dimer by endogenous 14-3-3 $\zeta$  in chronic pain conditions. *EMBO J.* 31: 3239-3251.
8. Workman, E.R., et al. 2015. Rapid antidepressants stimulate the decoupling of GABA<sub>B</sub> receptors from GIRK/Kir3 channels through increased protein stability of 14-3-3 $\eta$ . *Mol. Psychiatry* 20: 298-310.

**MONOS**  
Satisfaction  
Guaranteed

Try **GABA<sub>B</sub> R1 (D-2): sc-166408** or **GABA<sub>B</sub> R1 (C-11): sc-398901**, our highly recommended monoclonal alternatives to GABA<sub>B</sub> R1 (R-300).