

# GABA<sub>B</sub> R1 (R-20): sc-7338

## 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 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<sub>B</sub> R1 (R-20) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-7338 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GABA<sub>B</sub> R1 (R-20) 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-20) is also recommended for detection of GABA<sub>B</sub> R1 $\alpha$  and GABA<sub>B</sub> R1 $\beta$  in additional species, including canine and bovine.

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) Lenti-viral Particles: sc-42459-V and GABA<sub>B</sub> R1 shRNA (m) Lentiviral Particles: sc-42460-V.

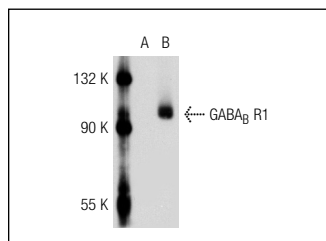
Molecular Weight of GABA<sub>B</sub> R1: 130 kDa.

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

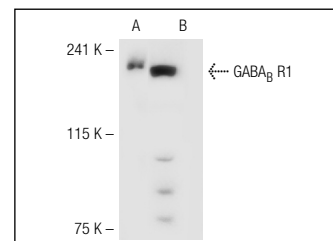
## STORAGE

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-20): sc-7338. 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-20): sc-7338. Western blot analysis of GABA<sub>B</sub> R1 expression in 293T whole cell lysate (A) and HeLa nuclear extract (B).

## SELECT PRODUCT CITATIONS

- Ferguson, S.C., et al. 2002. GABA and development of the *Xenopus* optic projection. *J. Neurobiol.* 51: 272-284.
- Backberg, M., et al. 2003. Chemical coding of GABA<sub>B</sub> receptor-immuno-reactive neurones in hypothalamic regions regulating body weight. *J. Neuroendocrinol.* 15: 1-14.
- Bäckberg, M., et al. 2004. Cellular localization of GABA receptor  $\alpha$  subunit immunoreactivity in the rat hypothalamus: relationship with neurones containing orexigenic or anorexigenic peptides. *J. Neuroendocrinol.* 16: 589-604.
- Delgado, L., et al. 2008. Immunohistochemical localization of GABA, GAD65, and the receptor subunits GABAA $\alpha$ 1 and GABAB1 in the zebrafish cerebellum. *Cerebellum* 7: 444-450.
- Delgado, L.M., et al. 2009. The GABAergic system in the retina of neonate and adult *Octodon degus*, studied by immunohistochemistry and electroretinography. *J. Comp. Neurol.* 514: 459-472.
- Lim, A.L., et al. 2011. Isolation rearing in rats: effect on expression of synaptic, myelin and GABA-related immunoreactivity and its utility for drug screening via the subchronic parenteral route. *Brain Res.* 1381: 52-65.

## RESEARCH USE

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

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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-20).