

# RIC-8B (I-13): sc-109013

## BACKGROUND

The Ras superfamily of GTPases can be subdivided into the Ras, Rho/Rac, Sar, Rab, Arf, Rap and Ran subfamilies, all of which control multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. The Ras superfamily of GTPases function as regulated switches that toggle between a biologically active GTP-bound and an inactive GDP-bound form. This activation is catalyzed by guanine nucleotide exchange factors (GEFs). RIC-8B (resistance to inhibitors of cholinesterase 8 homolog B), also known as Synembryon-B (brain synembryon) or hSyn in human, is a 536 amino acid cytoplasmic protein that can activate several  $G_{\alpha}$  proteins, including  $G_{\alpha i-1}$ ,  $G_{\alpha q}$  and  $G_{\alpha o}$ . Functioning as a guanine nucleotide exchange factor, RIC-8B binds to GDP-associated substrates and exchanges bound GDP for free GTP. RIC-8B has been localized to mature olfactory sensory neurons as well as in a few regions in the brain and has been shown to play a role in olfactory receptor expression and signaling. RIC-8B is expressed as multiple isoforms due to alternative splicing events.

## REFERENCES

1. Miller, K.G., et al. 2000. RIC-8 (synembryon): a novel conserved protein that is required for  $G_{\alpha q}$  signaling in the *C. elegans* nervous system. *Neuron* 27: 289-299.
2. Klattenhoff, C., et al. 2003. Human brain synembryon interacts with  $G_{\alpha s}$  and  $G_{\alpha q}$  and is translocated to the plasma membrane in response to isoproterenol and carbachol. *J. Cell. Physiol.* 195: 151-157.
3. Malik, S., et al. 2005. RIC-8 enhances G protein  $\beta\gamma$ -dependent signaling in response to  $\beta\gamma$ -binding peptides in intact cells. *Mol. Pharmacol.* 68: 129-136.
4. Charlie, N.K., et al. 2006. The dunce cAMP phosphodiesterase PDE-4 negatively regulates  $G_{\alpha s}$ -dependent and  $G_{\alpha s}$ -independent cAMP pools in the *Caenorhabditis elegans* synaptic signaling network. *Genetics* 173: 111-130.
5. Von Dannecker, L.E., et al. 2006. RIC-8B promotes functional expression of odorant receptors. *Proc. Natl. Acad. Sci. USA* 103: 9310-9314.

## CHROMOSOMAL LOCATION

Genetic locus: RIC8B (human) mapping to 12q23.3; Ric8b (mouse) mapping to 10 C1.

## SOURCE

RIC-8B (I-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RIC-8B 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.

Blocking peptide available for competition studies, sc-109013 P, (100  $\mu$ 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

RIC-8B (I-13) is recommended for detection of RIC-8B 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).

RIC-8B (I-13) is also recommended for detection of RIC-8B in additional species, including equine, canine, bovine, porcine and avian.

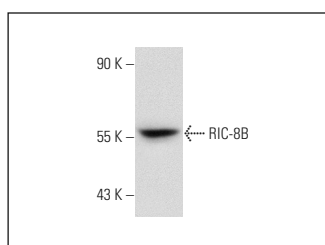
Suitable for use as control antibody for RIC-8B siRNA (h): sc-95876, RIC-8B siRNA (m): sc-152955, RIC-8B shRNA Plasmid (h): sc-95876-SH, RIC-8B shRNA Plasmid (m): sc-152955-SH, RIC-8B shRNA (h) Lentiviral Particles: sc-95876-V and RIC-8B shRNA (m) Lentiviral Particles: sc-152955-V.

Molecular Weight of RIC-8B: 61 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



RIC-8B (I-13): sc-109013. Western blot analysis of RIC-8B expression in 293T whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Li, F., et al. 2013. Heterotrimeric G protein subunit  $G_{\gamma 13}$  is critical to olfaction. *J. Neurosci.* 33: 7975-7984.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.