

# RGS9 (M-20): sc-8142

## BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to various intracellular effectors. G proteins comprise  $\alpha$ ,  $\beta$  and  $\gamma$  subunits, and following activation the  $\alpha$  subunit binds GTP and dissociates from the  $\beta\gamma$  complex. A large group of proteins have been identified as GTPase-activating proteins (GAPs), including the RGS (regulator of G protein signaling) family, which serve to deactivate specific  $G_{\alpha}$  isoforms by increasing the rate at which they convert GTP to GDP. A subfamily of RGS proteins expressed in the central nervous system contain, in addition to the highly conserved RGS domain, a characteristic GGL domain, or G protein  $\gamma$  subunit-like domain, which mediates binding to  $G_{\beta 5}$  subunits. This subfamily, which includes RGS6, RGS7, RGS9 and RGS11, associates with  $G_{\beta 5}$  to form active GAP complexes that are predominantly localized to the cytosol. RGS/ $\beta 5$  complexes preferentially target  $G_{\alpha o}$  subunit for hydrolysis and inhibit  $G\beta 1g2$ -mediated activation of phospholipase C.

## CHROMOSOMAL LOCATION

Genetic locus: RGS9 (human) mapping to 17q24.1; Rgs9 (mouse) mapping to 11 E1.

## SOURCE

RGS9 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RGS9 of mouse 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-8142 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RGS9 (M-20) is recommended for detection of RGS9 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).

RGS9 (M-20) is also recommended for detection of RGS9 in additional species, including canine.

Suitable for use as control antibody for RGS9 siRNA (h): sc-36412, RGS9 siRNA (m): sc-36413, RGS9 shRNA Plasmid (h): sc-36412-SH, RGS9 shRNA Plasmid (m): sc-36413-SH, RGS9 shRNA (h) Lentiviral Particles: sc-36412-V and RGS9 shRNA (m) Lentiviral Particles: sc-36413-V.

Molecular Weight of RGS9: 55 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, rat eye extract: sc-364805 or mouse eye extract: sc-364241.

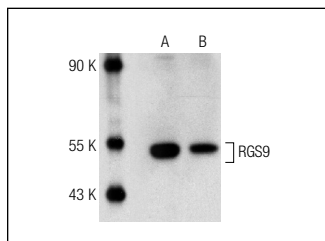
## RESEARCH USE

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



RGS9 (M-20): sc-8142. Western blot analysis of RGS9 expression in mouse eye (A) and rat eye (B) tissue extracts.

## SELECT PRODUCT CITATIONS

- Xu, H., et al. 2004. Opioid peptide receptor studies. 17. Attenuation of chronic morphine effects after antisense oligodeoxynucleotide knock-down of RGS9 protein in cells expressing the cloned  $\mu$ -opioid receptor. *Synapse* 52: 209-217.
- Garzon, J., et al. 2005. Morphine alters the selective association between  $\mu$ -opioid receptors and specific RGS proteins in mouse periaqueductal gray matter. *Neuropharmacology* 48: 853-868.
- Kovoor, A., et al. 2005. D2 dopamine receptors colocalize regulator of G protein signaling 9-2 (RGS9-2) via the RGS9 DEP domain, and RGS9 knock-out mice develop dyskinesias associated with dopamine pathways. *J. Neurosci.* 25: 2157-2158.
- Garzon, J., et al. 2005. Activation of  $\mu$ -opioid receptors transfers control of  $G_{\alpha}$  subunits to the regulator of G protein signaling RGS9-2: role in receptor desensitization. *J. Biol. Chem.* 280: 8951-8960.
- Mancuso, J.J., et al. 2010. Distribution of RGS9-2 in neurons of the mouse striatum. *J. Neurochem.* 112: 651-661.
- Alba-Delgado, C., et al. 2012. The function of  $\alpha$ -2-adrenoceptors in the rat locus coeruleus is preserved in the chronic constriction injury model of neuropathic pain. *Psychopharmacology* 221: 53-65.

## PROTOCOLS

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



Try **RGS9 (C-8): sc-377252**, our highly recommended monoclonal alternative to RGS9 (M-20).