

# RGS9 (T-19): sc-8143

## 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 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-8143 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RGS9 (T-19) 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), 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).

RGS9 (T-19) is also recommended for detection of RGS9 in additional species, including equine, canine and bovine.

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: A-10 cell lysate: sc-3806 or PC-12 cell lysate: sc-2250.

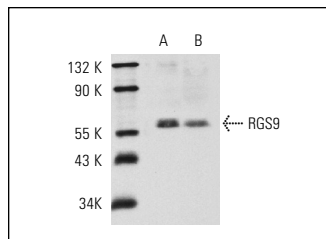
## RESEARCH USE

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

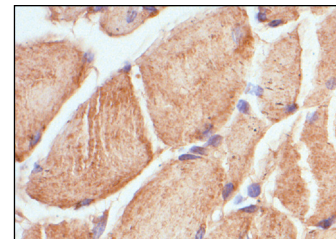
## STORAGE

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

## DATA



RGS9 (T-19): sc-8143. Western blot analysis of RGS9 expression in A-10 (A) and PC-12 (B) whole cell lysates.



RGS9 (T-19): sc-8143. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human muscle tissue showing cytoplasmic and membrane localization.

## SELECT PRODUCT CITATIONS

- Garzon, J., et al. 2001. RGS9 proteins facilitate acute tolerance to  $\mu$ -opioid effects. *Eur. J. Neurosci.* 13: 801-311.
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- Kim, K.J., et al. 2005. Differential expression of the regulator of G protein signaling RGS9 protein in nociceptive pathways of different age rats. *Brain Res. Dev. Brain Res.* 160: 28-39.
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- Bouhamdan, M., et al. 2006. Brain-specific regulator of G protein signaling 9-2 selectively interacts with  $\alpha$ -actinin-2 to regulate calcium-dependent inactivation of NMDA receptors. *J. Neurosci.* 26: 2522-2530.
- Rivero, G., et al. 2012. Differential regulation of RGS proteins in the prefrontal cortex of short and long-term human opiate abusers. *Neuropharmacology* 62: 1044-1051.
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Try **RGS9 (C-8): sc-377252**, our highly recommended monoclonal alternative to RGS9 (T-19).