

# RGS3 (N-19): sc-9303

## 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. RGS3 is a protein of the RGS family that preferentially binds to the activated form of  $G_{\alpha 11}$ . Through this association, RGS3 inhibits  $G_{\alpha 11}$ -induced signaling, leading to a decrease in the accumulation of intracellular calcium and the inhibition of MAP kinase phosphorylation. RGS3 is highly expressed in adult kidney and myocardium, and it is primarily localized to the cytoplasm. Upon activation of  $G_{\alpha 11}$ , RGS3 translocates from the cytosol to the plasma membrane, thereby bringing RGS3 within close proximity to the targeted G protein.

## REFERENCES

1. Conklin, B.R. and Bourne, H.R. 1993. Structural elements of  $G_{\alpha}$  subunits that interact with  $G_{\beta\gamma}$  receptors, and effectors. *Cell* 73: 631-641.
2. Druey, K.M., Blumer, K.J., Kang, V.H. and Kehrl, J.H. 1996. Inhibition of G-protein-mediated MAP kinase activation by a new mammalian gene family. *Nature* 379: 742-746.
3. Chatterjee, T.K., Eapen, A., Kanis, A.B. and Fisher, R.A. 1997. Genomic organization, 5'-flanking region, and chromosomal localization of the human RGS3 gene. *Genomics* 45: 429-433.
4. Chatterjee, T.K., Eapen, A.K. and Fisher, R.A. 1997. A truncated form of RGS3 negatively regulates G protein-coupled receptor stimulation of adenylyl cyclase and phosphoinositide phospholipase C. *J. Biol. Chem.* 272: 15481-15487.
5. Guan, K.L. and Han, M. 1999. A G-protein signaling network mediated by an RGS protein. *Genes Dev.* 13: 1763-1767.

## CHROMOSOMAL LOCATION

Genetic locus: RGS3 (human) mapping to 9q32.

## SOURCE

RGS3 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RGS3 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-9303 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

RGS3 (N-19) is recommended for detection of RGS3 of 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).

Suitable for use as control antibody for RGS3 siRNA (h): sc-40661, RGS3 shRNA Plasmid (h): sc-40661-SH and RGS3 shRNA (h) Lentiviral Particles: sc-40661-V.

Molecular Weight of RGS3 long isoform: 75 kDa.

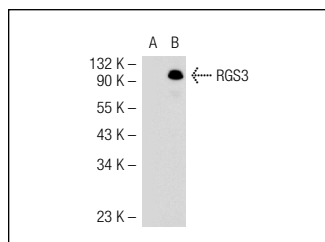
Molecular Weight of RGS3 short isoform: 25 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## 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



RGS3 (N-19): sc-9303. Western blot analysis of RGS3 expression in non-transfected: sc-117752 (A) and mouse RGS3 transfected: sc-125903 (B) 293T whole cell lysates.

## RESEARCH USE

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

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Try **RGS3 (CC-Q7): sc-100762**, our highly recommended monoclonal alternative to RGS3 (N-19).