

# RGS4 (C-17): sc-6203

## BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. In mammals, G protein  $\alpha$ ,  $\beta$  and  $\gamma$  polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their  $\alpha$  subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Four  $G_{\alpha}$  GTPase-activating proteins (GAPs) have been identified and are designated RGS1 (regulator of G protein signaling), RGS4, RGS10 and GAIP ( $G_{\alpha}$ -interacting protein). Each of these proteins has been shown to deactivate specific  $G_{\alpha}$  isoforms by increasing the rate at which they convert GTP to GDP. RGS1, RGS4 and GAIP bind tightly to and exhibit GAP activity towards  $G_{\alpha i}$ ,  $G_{\alpha o}$  and  $G_{\alpha t}$ , but not  $G_{\alpha s}$ . RGS10 increases the GTP hydrolytic activity of several members of the  $G_{\alpha i}$  subfamily including  $G_{\alpha i-3}$ ,  $G_{\alpha z}$ , and  $G_{\alpha o}$ .

## CHROMOSOMAL LOCATION

Genetic locus: RGS4 (human) mapping to 1q23.3; Rgs4 (mouse) mapping to 1 H3.

## SOURCE

RGS4 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of RGS4 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-6203 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RGS4 (C-17) is recommended for detection of RGS4 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).

RGS4 (C-17) is also recommended for detection of RGS4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RGS4 siRNA (h): sc-40663, RGS4 siRNA (m): sc-40664, RGS4 shRNA Plasmid (h): sc-40663-SH, RGS4 shRNA Plasmid (m): sc-40664-SH, RGS4 shRNA (h) Lentiviral Particles: sc-40663-V and RGS4 shRNA (m) Lentiviral Particles: sc-40664-V.

Molecular Weight of RGS4 isoforms 1/2/3/4/5: 23/23/34/11/21 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, SK-N-SH cell lysate: sc-2410 or SK-N-MC cell lysate: sc-2237.

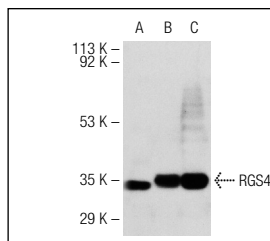
## STORAGE

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

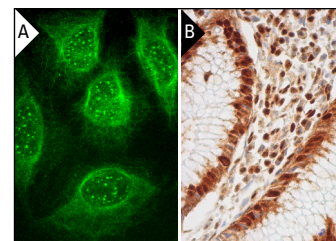
## RESEARCH USE

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

## DATA



RGS4 (C-17): sc-6203. Western blot analysis of RGS4 expression in EOC 20 (A), SK-N-SH (B) and SK-N-MC (C) whole cell lysates.



RGS4 (C-17): sc-6203. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear, cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Diverse-Pierluissi, M.A., et al. 1999. Regulators of G protein signaling proteins as determinants of the rate of desensitization of presynaptic calcium channels. *J. Biol. Chem.* 274: 14490-14494.
- Davydov, I.V., et al. 2000. RGS4 is arginylated and degraded by the N-end rule pathway *in vitro*. *J. Biol. Chem.* 275: 22931-22941.
- Luo, X., et al. 2001. RGS proteins provide biochemical control of agonist-evoked  $[Ca^{2+}]_i$  oscillations. *Mol. Cell* 7: 651-660.
- Ouyang, Y.S., et al. 2003. Regulators of G protein signaling (RGS) 4, insertion into model membranes and inhibition of activity by phosphatidic acid. *J. Biol. Chem.* 278: 11115-11122.
- Mutneja, M., et al. 2005. Endogenous RGS proteins enhance acute desensitization of GABA<sub>B</sub> receptor-activated GIRK currents in HEK-293T cells. *Pflugers Arch.* 450: 61-73.
- Ji, M., et al. 2011. RGS2 and RGS4 modulate melatonin-induced potentiation of glycine currents in rat retinal ganglion cells. *Brain Res.* 1411: 1-8.

## PROTOCOLS

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