

# RGS20 (C-13): sc-48291

## BACKGROUND

The regulators of G protein signaling (RGS) proteins inhibit heterotrimeric G protein signaling. RGS proteins work by functioning as GTPase-activating proteins (which increase the GTPase activity of G protein  $\alpha$  subunits) thereby driving G proteins into their inactive GDP-bound form. RGS20 is expressed exclusively in brain, with highest levels in the caudate nucleus and temporal lobe. RGS20 belongs to the RZ subfamily because it is highly selective for the  $\alpha_z$  subunit on G proteins. However, if protein kinase C phosphorylates the  $\alpha_z$  subunit, the G protein is much less susceptible to RGS20 action. RGS20 directly interacts with the microtubule-destabilizing protein SCG10 (superior cervical ganglia, neural specific 10) and blocks its ability to induce microtubule disassembly.

## REFERENCES

- Glick, J.L., et al. 1998. RGSZ1, a  $G_z$ -selective regulator of G protein signaling whose action is sensitive to the phosphorylation state of  $G_{\alpha_z}$ . *J. Biol. Chem.* 273: 26008-26013.
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- Barker, S.A., et al. 2001. RGSZ1 and Ret RGS: two of several splice variants from the gene RGS20. *Genomics* 78: 223-229.
- Nixon, A.B., et al. 2002. The interaction of RGSZ1 with SCG10 attenuates the ability of SCG10 to promote microtubule disassembly. *J. Biol. Chem.* 277: 18127-18133.
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- Wang, Y., et al. 2004. Analysis of RGSZ1 protein interaction with  $G_{\alpha_i}$  subunits. *Methods Enzymol.* 390: 31-52.
- Nixon, A.B., et al. 2004. Analysis of the regulation of microtubule dynamics by interaction of RGSZ1 (RGS20) with the neuronal stathmin, SCG10. *Methods Enzymol.* 390: 53-64.

## CHROMOSOMAL LOCATION

Genetic locus: RGS20 (human) mapping to 8q11.23; Rgs20 (mouse) mapping to 1 A1.

## SOURCE

RGS20 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RGS20 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-48291 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RGS20 (C-13) is recommended for detection of all isoforms of RGS20 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).

RGS20 (C-13) is also recommended for detection of all isoforms of RGS20 in additional species, including equine and canine.

Suitable for use as control antibody for RGS20 siRNA (h): sc-61470, RGS20 siRNA (m): sc-61471, RGS20 shRNA Plasmid (h): sc-61470-SH, RGS20 shRNA Plasmid (m): sc-61471-SH, RGS20 shRNA (h) Lentiviral Particles: sc-61470-V and RGS20 shRNA (m) Lentiviral Particles: sc-61471-V.

Molecular Weight of human RGS20: 44 kDa.

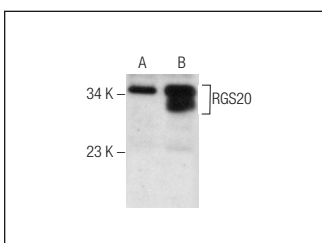
Molecular Weight of mouse RGS20: 27 kDa.

Positive Controls: RGS20 (h2): 293T Lysate: sc-372921, SK-N-SH cell lysate: sc-2410 or HeLa whole cell lysate: sc-2200.

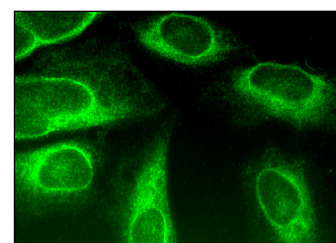
## RECOMMENDED SECONDARY REAGENTS

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



RGS20 (C-13): sc-48291. Western blot analysis of RGS20 expression in non-transfected: sc-117752 (A) and human RGS20 transfected: sc-372921 (B) 293T whole cell lysates.



RGS20 (C-13): sc-48291. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## 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.