

# RGS14 (N-20): sc-23665

## BACKGROUND

Regulators of G protein signaling (RGS proteins) are a family of highly diverse, multifunctional signaling proteins that share a conserved 120 amino acid domain (RGS domain). RGS domains bind directly to activated  $G_{\alpha}$  subunits and act as GTPase-activating proteins (GAPs) to attenuate and/or modulate hormone and neurotransmitter receptor-initiated signaling by both  $G_{\alpha}$ -GTP and  $G_{\beta\gamma}$ . RGS proteins shorten the lifetime of the activated G protein. Western blot analysis shows strong expression of RGS14 as a primarily cytosolic protein restricted to brain and spleen. It is suggested that RGS14 may constitute a bridging molecule that allows cross-regulation of signaling pathways downstream from G protein-coupled receptors. The gene which encodes RGS14 maps to human chromosome 5q35.3.

## REFERENCES

1. Snow, B.E., Antonio, L., Suggs, S., Gutstein, H.B. and Siderovski, D.P. 1997. Molecular cloning and expression analysis of rat RGS12 and RGS14. *Biochem. Biophys. Res. Commun.* 233: 770-777.
2. Kardstuncer, T., Wu, H., Lim, A.L. and Neer, E.J. 1998. Cardiac myocytes express mRNA for ten RGS proteins: changes in RGS mRNA expression in ventricular myocytes and cultured atria. *FEBS Lett.* 438: 285-288.
3. Hepler, J.R. 1999. Emerging roles for RGS proteins in cell signalling. *Trends Pharmacol. Sci.* 20: 376-382.
4. Traver, S., Bidot, C., Spassky, N., Baltauss, T., de Tand, M.F., Thomas, J.L., Zalc, B., Janoueix-Lerosey, I. and de Gunzburg, J. 2000. RGS14 is a novel Rap effector that preferentially regulates the GTPase activity of  $G_{\alpha}$ . *Biochem. J.* 350: 19-29.
5. Sierra, D.A., Gilbert, D.J., Householder, D., Grishin, N.V., Yu, K., Ukidwe, P., Barker, S.A., He, W., Wensel, T.G., Otero, G., Brown, G., Copeland, N.G., Jenkins, N.A. and Wilkie, T.M. 2002. Evolution of the regulators of G protein signaling multigene family in mouse and human. *Genomics* 79: 177-185.

## CHROMOSOMAL LOCATION

Genetic locus: RGS14 (human) mapping to 5q35.3; Rgs14 (mouse) mapping to 13 B1.

## SOURCE

RGS14 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RGS14 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-23665 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

RGS14 (N-20) is recommended for detection of RGS14 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

RGS14 (N-20) is also recommended for detection of RGS14 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for RGS14 siRNA (h): sc-40673, RGS14 siRNA (m): sc-40674, RGS14 shRNA Plasmid (h): sc-40673-SH, RGS14 shRNA Plasmid (m): sc-40674-SH, RGS14 shRNA (h) Lentiviral Particles: sc-40673-V and RGS14 shRNA (m) Lentiviral Particles: sc-40674-V.

## 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) 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.

## SELECT PRODUCT CITATIONS

1. Rodríguez-Muñoz, M., de la Torre-Madrid, E., Gaitán, G., Sánchez-Blázquez, P. and Garzón, J. 2007. RGS14 prevents morphine from internalizing Mu-opioid receptors in periaqueductal gray neurons. *Cell. Signal.* 19: 2558-2571.

## RESEARCH USE

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

## PROTOCOLS

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