SANTA CRUZ BIOTECHNOLOGY, INC.

Rho G (C-20): sc-1007

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ras p21 family of guanine nucleotide proteins has been widely studied in view of its apparent role in signal transduction pathways and high frequency of mutations in human malignancies. It is now clear, however, that the Ras proteins (H-, K- and N-Ras p21) are members of a much larger superfamily of related proteins. Six members of this family, Rap 1A, Rap 1B, Rap 2, R-Ras, Ral A and Ral B, exhibit approximately 50% amino acid homology to Ras. The six mammalian Rho proteins (Rho A, B, C, G, 7 and 8) are approximately 30% homologous to Ras and are expressed in a wide range of cell types. Both Ras p21 and Rho p21, as well as other members of the Ras superfamily, contain a carboxy terminal CAAX sequence (C, cysteine; A, aliphatic amino acid; X, any amino acid) which in the case of Ras has been shown to be essential for correct localization and function.

REFERENCES

1. Madaule, P. and Axel, R. 1985. A novel Ras-related gene family. Cell 41: 31-40.
2. Barbacid, M. 1987. Ras genes. Annu. Rev. Biochem. 56: 779-827.

CHROMOSOMAL LOCATION

Genetic locus: RHOG (human) mapping to 11p15.4; Rhog (mouse) mapping to 7 E3.

SOURCE

Rho G (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Rho G of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1007 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rho G (C-20) is recommended for detection of Rho G of mouse, rat, human and hamster origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Rho G (C-20) is also recommended for detection of Rho G in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Rho G siRNA (h): sc-41889, Rho G siRNA (m): sc-41890, Rho G shRNA Plasmid (h): sc-41889-SH, Rho G shRNA Plasmid (m): sc-41890-SH, Rho G shRNA (h) Lentiviral Particles: sc-41889-V and Rho G shRNA (m) Lentiviral Particles: sc-41890-V.

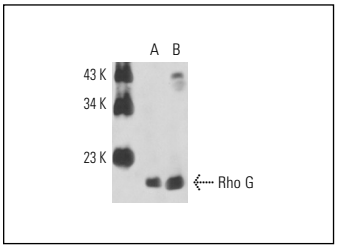
Rho Molecular Weight of Rho G: 21 kDa.

Positive Controls: Rho G (m): 293T Lysate: sc-127464, MDA-MB-231 cell lysate: sc-2232 or RAT2 whole cell lysate: sc-364198.

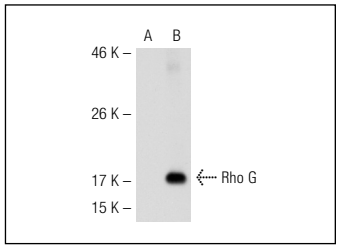
STORAGE

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

DATA



Rho G (C-20): sc-1007. Western blot analysis of Rho G expression in MDA-MB-231 (**A**) and RAT2 (**B**) whole cell lysates.



Rho G (C-20): sc-1007. Western blot analysis of Rho G expression in non-transfected: sc-117752 (**A**) and mouse Rho G transfected: sc-127464 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Jiang, W.G., et al. 2003. Prognostic value of Rho GTPases and Rho guanine nucleotide dissociation inhibitors in human breast cancers. Clin. Cancer Res. 9: 6432-6440.
2. Katoh, H., et al. 2003. RhoG activates Rac1 by direct interaction with the Dock180-binding protein Elmo. Nature 424: 461-464.
3. Minetti, G., et al. 2004. Differential sorting of tyrosine kinases and phosphotyrosine phosphatases acting on band 3 during vesiculation of human erythrocytes. Biochem. J. 377: 489-497.
4. Condliffe, A.M., et al. 2006. RhoG regulates the neutrophil NADPH oxidase. J. Immunol. 176: 5314-5320.
5. Kamanova, J., et al. 2008. Adenylate cyclase toxin subverts phagocyte function by RhoA inhibition and unproductive ruffling. J. Immunol. 181: 5587-5597.
6. Monypenny, J., et al. 2009. Cdc42 and Rac family GTPases regulate mode and speed but not direction of primary fibroblast migration during platelet-derived growth factor-dependent chemotaxis. Mol. Cell. Biol. 29: 2730-2747.
7. Tóth, B., et al. 2009. Over-expression of integrin β3 can partially overcome the defect of integrin β3 signaling in transglutaminase 2 null macrophages. Immunol. Lett. 126: 22-28.

RESEARCH USE

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