

# Rho F (S-16): sc-162092

## BACKGROUND

Rho, the Ras-related small GTPase, is responsible for the regulation of actin-based cytoskeletal structures including stress fibers, focal adhesions and the contractile ring apparatus. Rho proteins function as molecular switches that are able to turn cytokinesis on and off. Although little is known about signaling downstream of Rho, a host of putative Rho effector proteins have been described. Rho F (ras homolog gene family, member F), also known as RIF or ARHF, is a 211 amino acid membrane protein that localizes to the cytoplasmic side of the plasma membrane. Belonging to the small GTPase superfamily and the Rho family, Rho F functions cooperatively with Cdc42 and Rac to generate additional cytoskeletal structures, such as increasing variation of actin-based morphology. Rho F exists as two alternatively spliced isoforms and is encoded by a gene located on human chromosome 12q24.31.

## REFERENCES

1. Nobes, C.D. and Hall, A. 1995. Rho, rac, and cdc42 GTPases regulate the assembly of multimolecular focal complexes associated with actin stress fibers, lamellipodia, and filopodia. *Cell* 81: 53-62.
2. Olson, M.F., Ashworth, A. and Hall, A. 1995. An essential role for Rho, Rac, and Cdc42 GTPases in cell cycle progression through G<sub>1</sub>. *Science* 269: 1270-1272.
3. Ellis, S. and Mellor, H. 2000. The novel Rho-family GTPase rif regulates coordinated actin-based membrane rearrangements. *Curr. Biol.* 10: 1387-1390.
4. Chen, D., Zhao, M. and Mundy, G.R. 2004. Bone morphogenetic proteins. *Growth Factors* 22: 233-241.
5. Gouw, L.G., Reading, N.S., Jenson, S.D., Lim, M.S. and Elenitoba-Johnson, K.S. 2005. Expression of the Rho-family GTPase gene RHOF in lymphocyte subsets and malignant lymphomas. *Br. J. Haematol.* 129: 531-533.
6. Pellegrin, S. and Mellor, H. 2005. The Rho family GTPase Rif induces filopodia through mDia2. *Curr. Biol.* 15: 129-133.
7. Williams, D.A., Zheng, Y. and Cancelas, J.A. 2008. Rho GTPases and regulation of hematopoietic stem cell localization. *Meth. Enzymol.* 439: 365-393.

## CHROMOSOMAL LOCATION

Genetic locus: RHOF (human) mapping to 12q24.31; Rhof (mouse) mapping to 5 F.

## SOURCE

Rho F (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Rho F 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-162092 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Rho F (S-16) is recommended for detection of Rho F of mouse 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), 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); non cross-reactive with other Rho family members.

Rho F (S-16) is also recommended for detection of Rho F in additional species, including equine, canine, bovine and porcine.

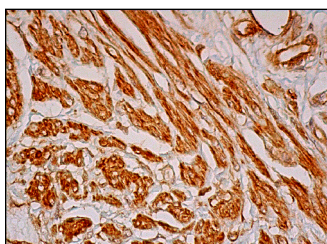
Suitable for use as control antibody for Rho F siRNA (h): sc-96060, Rho F siRNA (m): sc-152853, Rho F shRNA Plasmid (h): sc-96060-SH, Rho F shRNA Plasmid (m): sc-152853-SH, Rho F shRNA (h) Lentiviral Particles: sc-96060-V and Rho F shRNA (m) Lentiviral Particles: sc-152853-V.

Molecular Weight of Rho F isoforms: 19/24 kDa.

## 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Rho F (S-16): sc-162092. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells.

## 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.