

# Rho A (26C4): sc-418

## 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 five mammalian Rho proteins (Rho A, B, C, 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.

## CHROMOSOMAL LOCATION

Genetic locus: RHOA (human) mapping to 3p21; Rhoa (mouse) mapping to 9 F2.

## SOURCE

Rho A (26C4) is a mouse monoclonal antibody raised against an epitope corresponding to amino acids 120-150 of Rho A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as fluorescein (sc-418 FITC) and phycoerythrin (sc-418 PE) conjugates for flow cytometry, 100 tests.

Available as agarose conjugate for immunoprecipitation, sc-418 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as fluorescein (sc-418 FITC) or rhodamine (sc-418 TRITC) conjugates for immunofluorescence, 200 µg/ml.

Available as Alexa Fluor® 405 (sc-418 AF405), Alexa Fluor® 488 (sc-418 AF488) or Alexa Fluor® 647 (sc-418 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

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## APPLICATIONS

Rho A (26C4) is recommended for detection of Rho A of mouse, rat and human 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

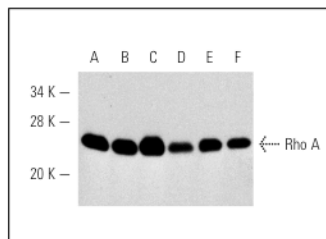
Suitable for use as control antibody for Rho A siRNA (h): sc-29471, Rho A siRNA (m): sc-36414, Rho A shRNA Plasmid (h): sc-29471-SH, Rho A shRNA Plasmid (m): sc-36414-SH, Rho A shRNA (h) Lentiviral Particles: sc-29471-V and Rho A shRNA (m) Lentiviral Particles: sc-36414-V.

Molecular Weight of Rho A: 24 kDa.

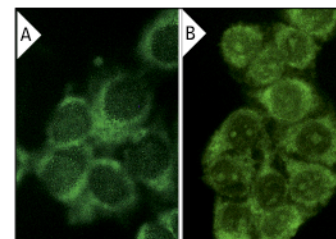
## STORAGE

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

## DATA



Rho A (26C4): sc-418. Western blot analysis of Rho A expression in KNRK (A), PC-12 (B), HL-60 (C), HeLa (D), SK-BR-3 (E) and MCF7 (F) whole cell lysates.



Rho A (26C4): sc-418. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization using indirect FITC (A) staining and HeLa cells using direct Alexa Fluor® 488 (B) staining.

## SELECT PRODUCT CITATIONS

- 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.
- Tharaux, P.L., et al. 2003. Rho kinase promotes alloimmune responses by regulating the proliferation and structure of T cells. *J. Immunol.* 171: 96-105.
- Hyvelin, J., et al. 2004. Effect of changes in pH on wall tension in isolated rat pulmonary artery: role of the RhoA/Rho-kinase pathway. *Am. J. Physiol.* 287: 673-684.
- Lee, S., et al. 2004. Cytoplasmic p21CIP1 is involved in Ras-induced inhibition of the Rock/LIMK/Cofilin pathway. *J. Biol. Chem.* 279: 1885-1891.
- Szászi, K., et al. 2005. Depolarization induces Rho-Rho kinase-mediated myosin light chain phosphorylation in kidney tubular cells. *Am. J. Physiol. Cell. Physiol.* 289: C673-C685.
- Matsizawa, T., et al. 2005. Enteropathogenic Escherichia coli type III effectors EspG and EspG2 alter epithelial paracellular permeability. *Infect. Immun.* 73: 6283-6289.
- Jiang, X., et al. 2010. HGAL, a germinal center specific protein, decreases lymphoma cell motility by modulation of the RhoA signaling pathway. *Blood* 116: 5217-5227.
- Roger, L., et al. 2010. Gain of oncogenic function of p53 mutants regulates E-cadherin expression uncoupled from cell invasion in colon cancer. *J. Cell Sci.* 123: 1295-1305.
- Li, D., et al. 2011. Dishevelled-associated activator of morphogenesis 1 (Daam1) is required for heart morphogenesis. *Development* 138: 303-315.

## RESEARCH USE

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