

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 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., et al. 1985. A novel Ras-related gene family. *Cell* 41: 31-40.
2. Barbacid, M. 1987. Ras genes. *Annu. Rev. Biochem.* 56: 779-827.
3. Yeremian, P., et al. 1987. Nucleotide sequence of human Rho cDNA clone 12. *Nucleic Acids Res.* 15: 1869.
4. Chardin, P. 1988. The Ras superfamily proteins. *Biochimie* 70: 865-868.

CHROMOSOMAL LOCATION

Genetic locus: RHOA (human) mapping to 3p21.31; Rhoa (mouse) mapping to 9 F2.

SOURCE

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

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rho A (26C4) is available conjugated to agarose (sc-418 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-418 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-418 PE), fluorescein (sc-418 FITC), Alexa Fluor[®] 488 (sc-418 AF488), Alexa Fluor[®] 546 (sc-418 AF546), Alexa Fluor[®] 594 (sc-418 AF594) or Alexa Fluor[®] 647 (sc-418 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-418 AF680) or Alexa Fluor[®] 790 (sc-418 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Rho A (26C4) is available conjugated to biotin (sc-418 B), 200 µg/ml, for WB, IHC(P) and ELISA; and to either TRITC (sc-418 TRITC), 200 µg/ml or Alexa Fluor[®] 405 (sc-418 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

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STORAGE

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

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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

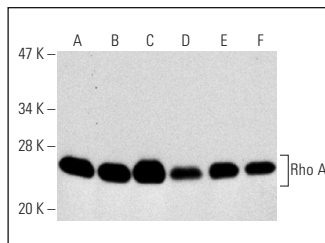
Rho A (26C4) is also recommended for detection of Rho A in additional species, including equine, bovine, porcine and canine.

Suitable for use as control antibody for Rho A siRNA (h): sc-29471, Rho A siRNA (m): sc-36414, Rho A siRNA (r): sc-108092, Rho A shRNA Plasmid (h): sc-29471-SH, Rho A shRNA Plasmid (m): sc-36414-SH, Rho A shRNA Plasmid (r): sc-108092-SH, Rho A shRNA (h) Lentiviral Particles: sc-29471-V, Rho A shRNA (m) Lentiviral Particles: sc-36414-V and Rho A shRNA (r) Lentiviral Particles: sc-108092-V.

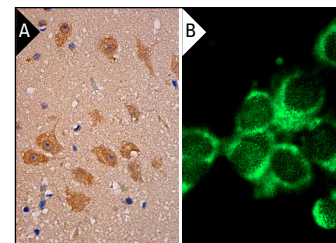
Molecular Weight of Rho A: 24 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, PC-12 cell lysate: sc-2250 or HL-60 whole cell lysate: sc-2209.

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) HRP: sc-418 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic and nuclear staining of neuronal cells (A). Rho A (26C4): sc-418. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

1. Siddiqi, A.R., et al. 1995. Regulation of phospholipase D in HL60 cells. Evidence for a cytosolic phospholipase D. *J. Biol. Chem.* 270: 8466-8473.
2. Philips, M.R., et al. 1995. Translocation of p21^{rac2} from cytosol to plasma membrane is neither necessary nor sufficient for neutrophil NADPH oxidase activity. *J. Biol. Chem.* 270: 11514-11521.
3. García-Mariscal, A., et al. 2018. Loss of RhoA promotes skin tumor formation and invasion by upregulation of RhoB. *Oncogene* 37: 847-860.
4. Thompson, W.R., et al. 2018. LARG GEF and ARHGAP18 orchestrate RhoA activity to control mesenchymal stem cell lineage. *Bone* 107: 172-180.

RESEARCH USE

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