SANTA CRUZ BIOTECHNOLOGY, INC.

p-Rho A (Ser 188): sc-32954

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 1 (A and B), Rap 2, R-Ras and Ral (A and B), exhibit approximately 50% amino acid homology to Ras. The three mammalian Rho proteins (A, B and C) 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. Phosphorylation of Ser 188 protects RhoA from ubiquitin/proteasome-mediated degradation in vascular smooth muscle cells.

CHROMOSOMAL LOCATION

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

SOURCE

p-Rho A (Ser 188) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 188 phosphorylated Rho A 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-32954 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Rho A (Ser 188) is recommended for detection of Ser 188 phosphorylated 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Rho A (Ser 188)-R is also recommended for detection of correspondingly phosphorylated Rho A in additional species, including equine, canine, bovine, porcine and avian.

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.

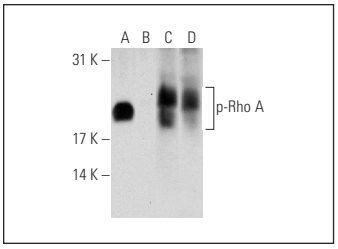
STORAGE

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

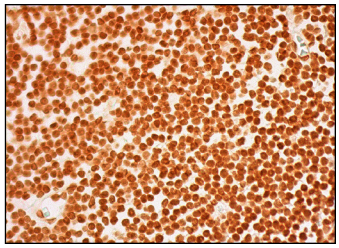
RESEARCH USE

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

DATA



Western blot analysis of Rho A phosphorylation in untreated (**A**,**C**) and lambda protein phosphatase treated (**B**,**D**) mouse brain tissue extracts. Antibodies tested include p-Rho A (Ser 188): sc-32954 (**A**,**B**) and Rho A (119): sc-179 (**C**,**D**).



p-Rho A (Ser 188): sc-32954. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal centers and cells in non-germinal centers.

SELECT PRODUCT CITATIONS

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2. Bijian, K., et al. 2005. Actin cytoskeleton regulates extracellular matrix-dependent survival signals in glomerular epithelial cells. Am. J. Physiol. Renal Physiol. 289: F1313-F1323.
3. Wikström, K., et al. 2008. Differential regulation of RhoA-mediated signaling by the TPα and TPβ isoforms of the human thromboxane A_2 receptor: Independent modulation of TPα signaling by prostacyclin and nitric oxide. Cell. Signal. 20: 1497-1512.
4. Liu, C., et al. 2008. Heat shock protein inhibitors increase the efficacy of measles virotherapy. Gene Ther. 15: 1024-1034.
5. Soliman, H., et al. 2008. Role of inducible nitric oxide synthase in induction of RhoA expression in hearts from diabetic rats. Cardiovasc. Res. 79: 322-330.
6. Boykin, C., et al. 2011. Cucurbitacin IIa: a novel class of anti-cancer drug inducing non-reversible actin aggregation and inhibiting survivin independent of JAK2/STAT3 phosphorylation. Br. J. Cancer 104: 781-789.
7. Li, L., et al. 2012. The human cadherin 11 is a pro-apoptotic tumor suppressor modulating cell stemness through Wnt/β-catenin signaling and silenced in common carcinomas. Oncogene 31: 3901-3912.
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9. Shen, Y., et al. 2013. Integrins-FAK-Rho GTPases pathway in endothelial cells sense and response to surface wettability of plasma nanocoatings. ACS Appl. Mater. Interfaces 5: 5112-5121.
10. Shen, Y., et al. 2015. Effect of surface chemistry on the integrin induced pathway in regulating vascular endothelial cells migration. Colloids Surf. B, Biointerfaces 126: 188-197.