

cleaved Rock-1 (4H247): sc-71965

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, including rhotilin, Rhotekin, citron and the serine/threonine kinase, protein kinase N. Two additional Rho-activated serine/threonine kinases have been described, designated Rock-1 and Rock-2 (also referred to as Roka) for Rho-associated coil-containing protein kinase. Rock-1 and Rock-2 share a structural similarity with myotonic dystrophy kinase.

REFERENCES

1. Kitagawa, M., et al. 1995. Purification and characterization of a fatty acid-activated protein kinase (PKN) from rat testis. *Biochem. J.* 310: 657-664.
2. Leung, T., et al. 1995. A novel serine/threonine kinase binding the Ras-related Rho A GTPase which translocates the kinase to peripheral membranes. *J. Biol. Chem.* 270: 29051-29054.
3. Kitagawa, M., et al. 1996. The role of the unique motifs in the amino-terminal region of PKN on its enzymatic activity. *Biochem. Biophys. Res. Commun.* 220: 963-968.
4. Ishizaki, T., et al. 1996. The small GTP-binding protein Rho binds to and activates a 160 kDa Ser/Thr protein kinase homologous to myotonic dystrophy kinase. *EMBO J.* 15: 1885-1893.
5. Shibata, H., et al. 1996. Characterization of the interaction between Rho A and the amino-terminal region of PKN. *FEBS Lett.* 385: 221-224.
6. Mukai, H., et al. 1996. PKN associates and phosphorylates the head-rod domain of neurofilament protein. *J. Biol. Chem.* 271: 9816-9822.
7. Watanabe, G., et al. 1996. Protein kinase N (PKN) and PKN-related protein rhotilin as targets of small GTPase Rho. *Science* 271: 645-648.

CHROMOSOMAL LOCATION

Genetic locus: ROCK1 (human) mapping to 18q11.1; Rock1 (mouse) mapping to 18 A1.

SOURCE

cleaved Rock-1 (4H247) is a mouse monoclonal antibody raised against a short amino acid sequence containing the neopeptide at raised against the caspase-3 cleavage site corresponding to amino acids 1113/1114 of Rock-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

cleaved Rock-1 (4H247) is recommended for detection of the cleaved C-terminus of Rock-1 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]; also recommended for detection of the full-length protein.

Suitable for use as control antibody for Rock-1 siRNA (h): sc-29473, Rock-1 siRNA (m): sc-36432, Rock-1 siRNA (r): sc-72179, Rock-1 shRNA Plasmid (h): sc-29473-SH, Rock-1 shRNA Plasmid (m): sc-36432-SH, Rock-1 shRNA Plasmid (r): sc-72179-SH, Rock-1 shRNA (h) Lentiviral Particles: sc-29473-V, Rock-1 shRNA (m) Lentiviral Particles: sc-36432-V and Rock-1 shRNA (r) Lentiviral Particles: sc-72179-V.

Molecular Weight of full length Rock-1: 158 kDa.

Molecular Weight of cleaved Rock-1: 130 kDa.

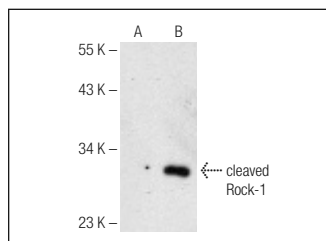
Molecular Weight of Rock-1 cleavage fragment: 32 kDa.

Positive Controls: Jurkat + staurosporine cell lysate: sc-24719.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Western blot analysis of cleaved Rock-1 expression in untreated (A) and Staurosporine (sc-3510) treated (B) Jurkat whole cell lysates. Antibody tested include cleaved Rock-1 (4H247): sc-71965 (A,B). Note cleaved Rock-1 expression in lane B.

SELECT PRODUCT CITATIONS

1. Chen, J., et al. 2008. Placenta growth factor, PLGF, influences the motility of lung cancer cells, the role of Rho associated kinase, Rock-1. *J. Cell. Biochem.* 105: 313-320.
2. Lee, S.H., et al. 2018. HA1077 displays synergistic activity with daclatasvir against hepatitis C virus and suppresses the emergence of NS5A resistance-associated substitutions in mice. *Sci. Rep.* 8: 12469.

RESEARCH USE

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