

Rock-2 (N-19): sc-1852

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 cytoskeleton on and off. Although little is known about signaling downstream of Rho, a host of putative Rho effector proteins have been described, including 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 are 160 kDa and 150 kDa proteins, respectively, and 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 RhoA GTPase which translocates the kinase to peripheral membranes. *J. Biol. Chem.* 270: 29051-29054.
3. Mukai, H., et al. 1996. PKN associates and phosphorylates the head-rod domain of neurofilament protein. *J. Biol. Chem.* 271: 9816-9822.
4. Shibata, H., et al. 1996. Characterization of the interaction between RhoA and the amino-terminal region of PKN. *FEBS Lett.* 385: 221-224.
5. 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. Comm.* 220: 963-968.
6. Watanabe, G., et al. 1996. Protein kinase N (PKN) and PKN-related protein rhotekin as targets of small GTPase Rho. *Science* 271: 645-648.
7. Amano, M., et al. 1996. Identification of a putative target for Rho as the serine-threonine kinase protein kinase N. *Science* 271: 648-650.

CHROMOSOMAL LOCATION

Genetic locus: ROCK2 (human) mapping to 2p24; Rock2 (mouse) mapping to 12 A3.

SOURCE

Rock-2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Rock-2 of rat 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-1852 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Rock-2 (N-19) is recommended for detection of Rock-1 and Rock-2 of mouse, rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rock-2 (N-19) is also recommended for detection of Rock-1 and Rock-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Rock-2 siRNA (h): sc-29474, Rock-2 siRNA (m): sc-36433, Rock-2 siRNA (r): sc-108088, Rock-2 shRNA Plasmid (h): sc-29474-SH, Rock-2 shRNA Plasmid (m): sc-36433-SH, Rock-2 shRNA Plasmid (r): sc-108088-SH, Rock-2 shRNA (h) Lentiviral Particles: sc-29474-V, Rock-2 shRNA (m) Lentiviral Particles: sc-36433-V and Rock-2 shRNA (r) Lentiviral Particles: sc-108088-V.

Molecular Weight of Rock-2: 160 kDa.

Positive Controls: Human colon tissue extract, Sol8 cell lysate: sc-2249 or A-10 cell lysate: sc-3806.

SELECT PRODUCT CITATIONS

1. Masuda, M., et al. 2000. Activation of Rho through a cross-link with polyamines catalyzed by Bordetella dermonecrotizing toxin. *EMBO J.* 19: 521-530.
2. Anabuki, J., et al. 2000. Muscarinic stimulation does not induce Rho A/ROCK-mediated Ca²⁺ sensitization of the contractile element in chicken gizzard smooth muscle. *Pflügers Arch.* 441: 189-199.
3. Pedersen, S.F., et al. 2002. Rho family GTP binding proteins are involved in the regulatory volume decrease process in NIH/3T3 mouse fibroblasts. *J. Physiol.* 541: 779-796.
4. Chellaiah, M.A., et al. 2003. Rho-dependent Rho kinase activation increases CD44 surface expression and bone resorption in osteoclasts. *J. Biol. Chem.* 278: 29086-29097.
5. Xu, J.W., et al. 2007. C-reactive protein suppresses Insulin signaling in endothelial cells: role of spleen tyrosine kinase. *Mol. Endocrinol.* 21: 564-573.

RESEARCH USE

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



Try **Rock-2 (D-11): sc-398519** or **Rock-2 (D-2): sc-365275**, our highly recommended monoclonal alternatives to Rock-2 (N-19).