

cleaved Rock-1 (154C1465): sc-52953

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 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. 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.
2. Kitagawa, M., et al. 1995. Purification and characterization of a fatty acid-activated protein kinase (PKN) from rat testis. *Biochem. J.* 310: 657-664.

CROMOSOMAL LOCATION

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

SOURCE

cleaved Rock-1 (154C1465) is a mouse monoclonal antibody 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 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cleaved Rock-1 (154C1465) 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.

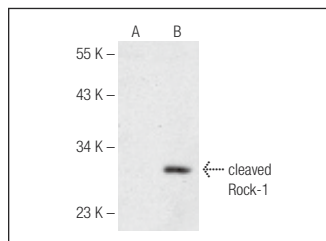
Molecular Weight of Rock-1 cleavage fragment: 32 kDa.

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

STORAGE

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

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 (154C1465): sc-52953 (A,B). Note cleaved Rock-1 expression in Lane B.

SELECT PRODUCT CITATIONS

1. Xu, E.Z., et al. 2010. Rescue treatment with a Rho-kinase inhibitor normalizes right ventricular function and reverses remodeling in juvenile rats with chronic pulmonary hypertension. *Am. J. Physiol. Heart Circ. Physiol.* 299: H1854-H1864.
2. Kam, A., et al. 2014. Gallic acid protects against endothelial injury by restoring the depletion of DNA methyltransferase 1 and inhibiting proteasome activities. *Int. J. Cardiol.* 171: 231-242.
3. Gosal, K., et al. 2015. Rho kinase mediates right ventricular systolic dysfunction in rats with chronic neonatal pulmonary hypertension. *Am. J. Respir. Cell Mol. Biol.* 52: 717-727.
4. Namachivayam, K., et al. 2015. All-*trans* retinoic acid Induces TGF-β2 in intestinal epithelial cells via RhoA- and p38α MAPK-mediated activation of the transcription factor ATF2. *PLoS ONE* 10: e0134003.
5. Wong, M.J., et al. 2016. Simvastatin prevents and reverses chronic pulmonary hypertension in newborn rats via pleiotropic inhibition of RhoA signaling. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 311: L985-L999.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.