SANTA CRUZ BIOTECHNOLOGY, INC.

# Rock-2 (H-85): sc-5561

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 rhophilin, 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.

## CHROMOSOMAL LOCATION

Genetic locus: ROCK2 (human) mapping to 2p25.1; Rock2 (mouse) mapping to 12 A1.1.

## SOURCE

Rock-2 (H-85) is a rabbit polyclonal antibody raised against amino acids 775-860 mapping within an internal region of Rock-2 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.

## APPLICATIONS

Rock-2 (H-85) is recommended for detection of Rock-2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rock-2 (H-85) is also recommended for detection of 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 shRNA Plasmid (h): sc-29474-SH, Rock-2 shRNA Plasmid (m): sc-36433-SH, Rock-2 shRNA (h) Lentiviral Particles: sc-29474-V and Rock-2 shRNA (m) Lentiviral Particles: sc-36433-V.

Molecular Weight of Rock-2: 160 kDa.

Positive Controls: Rat brain extract: sc-2392, Sol8 cell lysate: sc-2249 or A-10 cell lysate: sc-3806.

## STORAGE

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

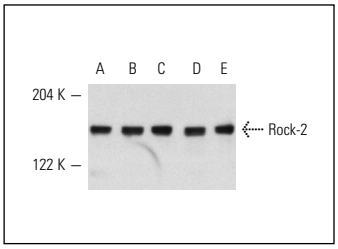
## PROTOCOLS

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

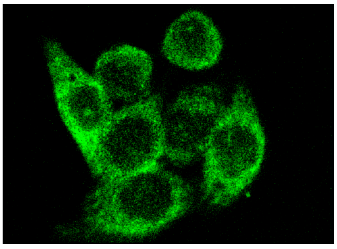
## RESEARCH USE

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

## DATA




Rock-2 (H-85): sc-5561. Western blot analysis of Rock-2 expression in HeLa (**A**), A-673 (**B**), Sol8 (**C**) and A-10 (**D**) whole cell lysates and rat brain (**E**) extract.



Rock-2 (H-85): sc-5561. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS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2. Thumkeo, D., et al. 2003. Targeted disruption of the mouse rho-associated kinase 2 gene results in intrauterine growth retardation and fetal death. Mol. Cell. Biol. 23: 5043-5055.
3. Murthy, K.S., et al. 2003. Inhibition of sustained smooth muscle contraction by PKA and PKG preferentially mediated by phosphorylation of RhoA. Am. J. Physiol. Gastrointest. Liver Physiol. 284: 1006-16.
4. Murthy, K.S., et al. 2003. Differential signalling by muscarinic receptors in smooth muscle: µ2-mediated inactivation of myosin light chain kinase via Gi3, Cdc42/Rac1 and p21-activated kinase 1 pathway, and µ3-mediated MLC20 (20 kDa regulatory light chain of myosin II) phosphorylation via Rho-associated kinase/myosin phosphatase targeting subunit 1 and protein kinase C/CPI-17 pathway. Biochem. J. 374: 145-155.
5. Moleda, L., et al. 2011. Amelioration of portal hypertension and the hyperdynamic circulatory syndrome in cirrhotic rats by neuropeptide Y via pronounced splanchnic vasoaction. Gut 60: 1122-1132.
6. Chen, Z., et al. 2011. Synthetic osteogenic growth peptide promotes differentiation of human bone marrow mesenchymal stem cells to osteoblasts via RhoA/ROCK pathway. Mol. Cell. Biochem. 358: 221-227.
7. Breyer, J., et al. 2012. Inhibition of Rho kinases increases directional motility of microvascular endothelial cells. Biochem. Pharmacol. 83: 616-626.