

Rock-1 (B-1): sc-374388

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

SOURCE

Rock-1 (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1309-1346 near the C-terminus of Rock-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374388 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Rock-1 (B-1) is recommended for detection of Rock-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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-1 (B-1) is also recommended for detection of Rock-1 in additional species, including equine, canine and bovine.

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 Rock-1: 160 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, U-698-M whole cell lysate: sc-364799 or HL-60 whole cell lysate: sc-2209.

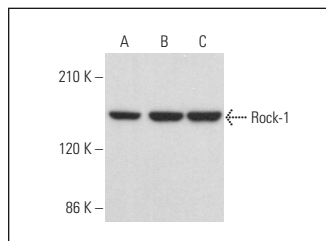
RESEARCH USE

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

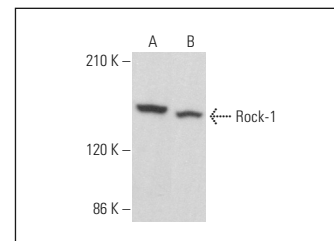
STORAGE

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

DATA



Rock-1 (B-1): sc-374388. Western blot analysis of Rock-1 expression in SUP-T1 (A), U-698-M (B) and HL-60 (C) whole cell lysates.



Rock-1 (B-1): sc-374388. Western blot analysis of Rock-1 expression in K-562 (A) and CCRF-CEM (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Sun, X.B., et al. 2014. Effect of lithium chloride on endoplasmic reticulum stress-related PERK/Rock signaling in a rat model of glaucoma. *Pharmazie* 69: 889-893.
- Guo, X. and Liu, X. 2017. Nogo receptor knockdown and ciliary neurotrophic factor attenuate diabetic retinopathy in streptozotocin-induced diabetic rats. *Mol. Med. Rep.* 16: 2030-2036.
- Xu, L., et al. 2017. Effects of CASZ1 on bronchopulmonary development of neonatal rats. *Exp. Ther. Med.* 14: 6243-6246.
- Wilson, J.L., et al. 2018. Unraveling endothelin-1 induced hypercontractility of human pulmonary artery smooth muscle cells from patients with pulmonary arterial hypertension. *PLoS ONE* 13: e0195780.
- Dong, J., et al. 2018. MicroRNA-217 functions as a tumor suppressor in cervical cancer cells through targeting Rho-associated protein kinase 1. *Oncol. Lett.* 16: 5535-5542.
- Chen, W., et al. 2018. Rock-2, but not Rock-1 interacts with phosphorylated Stat3 and co-occupies TH17/TFH gene promoters in TH17-activated human T cells. *Sci. Rep.* 8: 16636.
- Wu, S., et al. 2018. MicroRNA-448 inhibits the progression of retinoblastoma by directly targeting Rock-1 and regulating PI3K/Akt signalling pathway. *Oncol. Rep.* 39: 2402-2412.
- Gao, S., et al. 2018. MiR-592 suppresses the development of glioma by regulating Rho-associated protein kinase. *Neuroreport* 29: 1391-1399.
- Ma, Y., et al. 2019. AGTR1 promotes lymph node metastasis in breast cancer by upregulating CXCR4/SDF-1 α and inducing cell migration and invasion. *Aging* 11: 3969-3992.

CONJUGATES

See **Rock-1 (G-6): sc-17794** for Rock-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.