SANTA CRUZ BIOTECHNOLOGY, INC.

Rock-1 (H-11): sc-365628

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

SOURCE

Rock-1 (H-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1327-1354 at the C-terminus of Rock-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-365628 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Rock-1 (H-11) 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 (H-11) is also recommended for detection of Rock-1 in additional species, including canine and porcine.

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: Caki-1 cell lysate: sc-2224, CCRF-CEM cell lysate: sc-2225 or K-562 whole cell lysate: sc-2203.

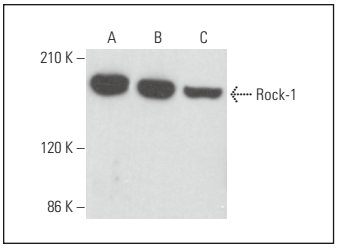
STORAGE

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

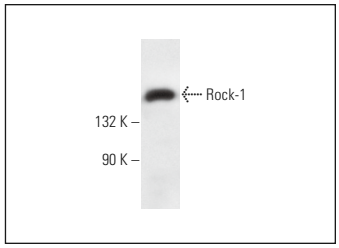
RESEARCH USE

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

DATA



Rock-1 (H-11): sc-365628. Western blot analysis of Rock-1 expression in K-562 (**A**), CCRF-CEM (**B**) and WEHI-231 (**C**) whole cell lysates.



Rock-1 (H-11): sc-365628. Western blot analysis of Rock-1 expression in Caki-1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhang, S., et al. 2016. MicroRNA-198 inhibited tumorous behaviors of human osteosarcoma through directly targeting Rock-1. Biochem. Biophys. Res. Commun. 472: 557-565.
2. Park, Y.H., et al. 2016. Pyrin inflammasome activation and RhoA signaling in the autoinflammatory diseases FMF and HIDS. Nat. Immunol. 17: 914-921.
3. Cheng, L., et al. 2017. MicroRNA-150 targets Rho-associated protein kinase 1 to inhibit cell proliferation, migration and invasion in papillary thyroid carcinoma. Mol. Med. Rep. 16: 2217-2224.
4. Liu, Y., et al. 2017. MicroRNA-195 inhibits cell proliferation, migration and invasion in laryngeal squamous cell carcinoma by targeting Rock-1. Mol. Med. Rep. 16: 7154-7162.
5. Liu, Y.A., et al. 2018. MicroRNA-216b reduces growth, migration and invasion of pancreatic ductal adenocarcinoma cells by directly targeting ρ-associated coiled-coil containing protein kinase 1. Oncol. Lett. 15: 6745-6751.
6. Hou, C., et al. 2018. Knockdown of Trio by CRISPR/Cas9 suppresses migration and invasion of cervical cancer cells. Oncol. Rep. 39: 795-801.
7. Han, C. and Wang, W. 2018. MicroRNA-129-5p suppresses cell proliferation, migration and invasion via targeting ROCK1 in osteosarcoma. Mol. Med. Rep. 17: 4777-4784.
8. Maimaitiming, A., et al. 2020. MicroRNA-152 inhibits cell proliferation, migration, and invasion in breast cancer. Oncol. Res. 28: 13-19.
9. Cheng, Y. and Shen, P. 2020. miR-335 acts as a tumor suppressor and enhances ionizing radiation-induced tumor regression by targeting ROCK1. Front. Oncol. 10: 278.

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.