

Rock-2 (30-J): sc-100425

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 rhotilin, 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. 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 Rho A GTPase which translocates the kinase to peripheral membranes. *J. Biol. Chem.* 270: 29051-29054.

CHROMOSOMAL LOCATION

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

SOURCE

Rock-2 (30-J) is a mouse monoclonal antibody raised against recombinant Rock-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 (30-J) 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).

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.

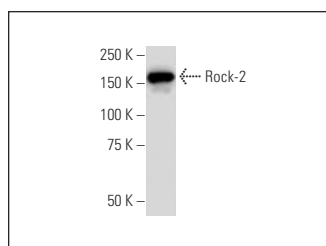
Molecular Weight of Rock-2: 160 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-673 cell lysate: sc-2414 or human colon extract: sc-363757.

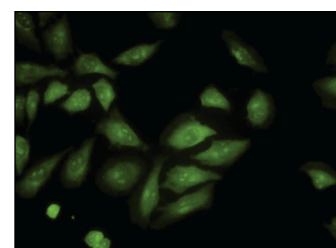
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Rock-2 (30-J): sc-100425. Western blot analysis of Rock-2 expression in HeLa whole cell lysate.



Rock-2 (30-J): sc-100425. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Cao, H.H., et al. 2015. A three-protein signature and clinical outcome in esophageal squamous cell carcinoma. *Oncotarget* 6: 5435-5448.
2. Datta, A., et al. 2017. Fibroblast-derived HGF drives acinar lung cancer cell polarization through integrin-dependent RhoA-Rock1 inhibition. *Cell. Signal.* 40: 91-98.
3. Dai, K., et al. 2018. Fasudil exerts a cardio-protective effect on mice with coxsackievirus B3-induced acute viral myocarditis. *Cardiovasc. Ther.* 31: e12477.
4. Lee, S.H., et al. 2018. HA1077 displays synergistic activity with daclatasvir against hepatitis C virus and suppresses the emergence of NS5A resistance-associated substitutions in mice. *Sci. Rep.* 8: 12469.
5. Zhang, F., et al. 2020. 3-MST/H₂S protects cerebral endothelial cells against OGD/R-induced injury via mitoprotection and inhibition of the RhoA/ROCK pathway. *Am. J. Physiol., Cell Physiol.* 319: C720-C733.
6. Scheiblich, H., et al. 2021. Microglia jointly degrade fibrillar α-synuclein cargo by distribution through tunneling nanotubes. *Cell* 184: 5089-5106.e21.

RESEARCH USE

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



See **Rock-2 (D-11): sc-398519** for Rock-2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.