

# Rock-2 (D-11): sc-398519

## 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 Rok $\alpha$ ) 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 (D-11) is a mouse monoclonal antibody raised against amino acids 775-860 mapping within an internal region of Rock-2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rock-2 (D-11) is available conjugated to agarose (sc-398519 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398519 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398519 PE), fluorescein (sc-398519 FITC), Alexa Fluor<sup>®</sup> 488 (sc-398519 AF488), Alexa Fluor<sup>®</sup> 546 (sc-398519 AF546), Alexa Fluor<sup>®</sup> 594 (sc-398519 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-398519 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-398519 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-398519 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Rock-2 (D-11) is recommended for detection of Rock-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 siRNA (r): sc-108088, Rock-2 shRNA Plasmid (h): sc-29474-SH, Rock-2 shRNA Plasmid (m): sc-36433-SH, Rock-2 shRNA Plasmid (r): sc-108088-SH, Rock-2 shRNA (h) Lentiviral Particles: sc-29474-V, Rock-2 shRNA (m) Lentiviral Particles: sc-36433-V and Rock-2 shRNA (r) Lentiviral Particles: sc-108088-V.

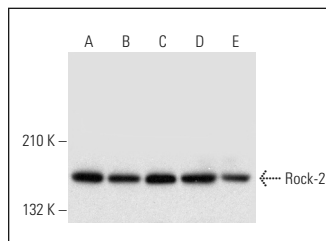
Molecular Weight of Rock-2: 160 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or Y79 cell lysate: sc-2240.

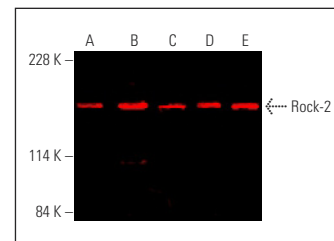
## STORAGE

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

## DATA



Rock-2 (D-11): sc-398519. Western blot analysis of Rock-2 expression in HeLa (A), A-673 (B), Y79 (C), MCF7 (D) and Jurkat (E) whole cell lysates.



Rock-2 (D-11): sc-398519. Near-infrared western blot analysis of Rock-2 expression in A-673 (A), Y79 (B), Jurkat (C), PC-3 (D) and NIH/3T3 (E) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

## SELECT PRODUCT CITATIONS

- Park, Y.H., et al. 2016. Pyyin inflammasome activation and RhoA signaling in the autoinflammatory diseases FMF and HIDS. *Nat. Immunol.* 17: 914-921.
- Sugimoto, W., et al. 2018. Substrate rigidity-dependent positive feedback regulation between YAP and ROCK2. *Cell Adh. Migr.* 12: 101-108.
- Hou, C., et al. 2018. Knockdown of Trio by CRISPR/Cas9 suppresses migration and invasion of cervical cancer cells. *Oncol. Rep.* 39: 795-801.
- Moujaber, O., et al. 2019. Cellular senescence is associated with reorganization of the microtubule cytoskeleton. *Cell. Mol. Life Sci.* 76: 1169-1183.
- Takeda, Y., et al. 2019. ROCK2 regulates monocyte migration and cell to cell adhesion in vascular endothelial cells. *Int. J. Mol. Sci.* 20: 1331.
- Nagai, Y., et al. 2019. ROCK2 regulates TGF $\beta$ -induced expression of CTGF and profibrotic genes via NF $\kappa$ B and cytoskeleton dynamics in mesangial cells. *Am. J. Physiol. Renal Physiol.* 317: F839-F851.
- Pranatharthi, A., et al. 2019. RhoC regulates radioresistance via crosstalk of ROCK2 with the DNA repair machinery in cervical cancer. *J. Exp. Clin. Cancer Res.* 38: 392.
- Zucchini, C., et al. 2019. ROCK2 deprivation leads to the inhibition of tumor growth and metastatic potential in osteosarcoma cells through the modulation of YAP activity. *J. Exp. Clin. Cancer Res.* 38: 503.
- Lapointe, F., et al. 2020. RPTP promotes M2-polarized macrophage migration through ROCKII signaling and podosome formation. *J. Cell Sci.* 133: jcs234641.
- Moodley, S., et al. 2020. RET isoform-specific interaction with scaffold protein Ezrin promotes cell migration and chemotaxis in lung adenocarcinoma. *Lung Cancer* 142: 123-131.

## RESEARCH USE

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