

Rock-1 (G-6): sc-17794

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 (G-6) is a mouse monoclonal antibody raised against amino acids 755-840 within an internal region of Rock-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rock-1 (G-6) is available conjugated to agarose (sc-17794 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17794 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17794 PE), fluorescein (sc-17794 FITC), Alexa Fluor® 488 (sc-17794 AF488), Alexa Fluor® 546 (sc-17794 AF546), Alexa Fluor® 594 (sc-17794 AF594) or Alexa Fluor® 647 (sc-17794 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17794 AF680) or Alexa Fluor® 790 (sc-17794 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Rock-1 (G-6) is recommended for detection of Rock-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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), immunohistochemistry (including paraffin-embedded sections) (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-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.

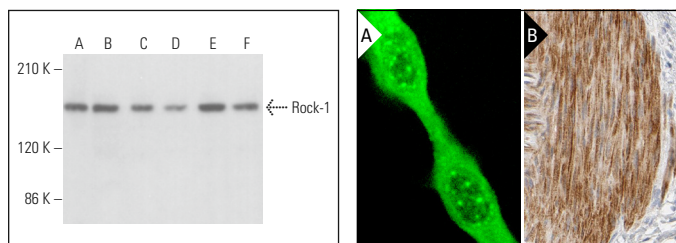
Molecular Weight of Rock-1: 160 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

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 (G-6): sc-17794. Western blot analysis of Rock-1 expression in c4 (A), C6 (B), PC-12 (C), Hep G2 (D), HEK293 (E) and HeLa (F) whole cell lysates.

Rock-1 (G-6): sc-17794. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human soft tissue showing cytoplasmic staining of endothelial cells (B).

SELECT PRODUCT CITATIONS

- Friel, A.M., et al. 2005. Rho A/Rho kinase mRNA and protein levels in human myometrium during pregnancy and labor. *J. Soc. Gynecol. Investig.* 12: 20-27.
- Fu, Y.Y., et al. 2016. Analysis of transcription profile to reveal altered signaling pathways following the overexpression of human desumoylating isopeptidase 2 in pancreatic cancer cells. *Oncol. Lett.* 12: 4677-4684.
- Xu, J., et al. 2017. Vitamin D reduces oxidative stress-induced pro-caspase-3/Rock-1 activation and MP release by placental trophoblasts. *J. Clin. Endocrinol. Metab.* 102: 2100-2110.
- Park, J.T., et al. 2018. A crucial role of ROCK for alleviation of senescence-associated phenotype. *Exp. Gerontol.* 106: 8-15.
- Zhao, H., et al. 2019. DOK7V1 influences the malignant phenotype of lung cancer cells through PI3K/Akt/mTOR and FAK/paxillin signaling pathways. *Int. J. Oncol.* 54: 381-389.
- Yamamura, A., et al. 2020. The Rho kinase 2 (ROCK2)-specific inhibitor KD025 ameliorates the development of pulmonary arterial hypertension. *Biochem. Biophys. Res. Commun.* 534: 795-801.
- Bai, L., et al. 2021. Protocatechuic acid attenuates isoproterenol-induced cardiac hypertrophy via downregulation of ROCK1-Sp1-PKCγ axis. *Sci. Rep.* 11: 17343.
- Yang, Y., et al. 2022. Numb inhibits migration and promotes proliferation of colon cancer cells via RhoA/ROCK signaling pathway repression. *Exp. Cell Res.* 411: 113004.
- Liu, X., et al. 2023. Dasabuvir suppresses esophageal squamous cell carcinoma growth *in vitro* and *in vivo* through targeting ROCK1. *Cell Death Dis.* 14: 118.

RESEARCH USE

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