

PRK2 (A-3): sc-271971

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 rhotekin, citron and the serine/threonine kinase, protein kinase N. Several related Rho-binding proteins have been identified, including the serine/threonine kinases PRK2 (PKC-related kinase 2, also designated PAK-2).

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 RhoA GTPase which translocates the kinase to peripheral membranes. *J. Biol. Chem.* 270: 29051-29054.
3. Watanabe, G., et al. 1996. Protein kinase N (PKN) and PKN-related protein rhotekin as targets of small GTPase Rho. *Science* 271: 645-648.
4. Amano, M., et al. 1996. Identification of a putative target for Rho as the serine-threonine kinase protein kinase N. *Science* 271: 648-650.

CHROMOSOMAL LOCATION

Genetic locus: PKN2 (human) mapping to 1p22.2; Pkn2 (mouse) mapping to 3 H1.

SOURCE

PRK2 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 949-978 at the C-terminus of PRK2 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.

PRK2 (A-3) is available conjugated to agarose (sc-271971 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271971 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271971 PE), fluorescein (sc-271971 FITC), Alexa Fluor® 488 (sc-271971 AF488), Alexa Fluor® 546 (sc-271971 AF546), Alexa Fluor® 594 (sc-271971 AF594) or Alexa Fluor® 647 (sc-271971 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271971 AF680) or Alexa Fluor® 790 (sc-271971 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271971 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

PRK2 (A-3) is recommended for detection of PRK2 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), 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).

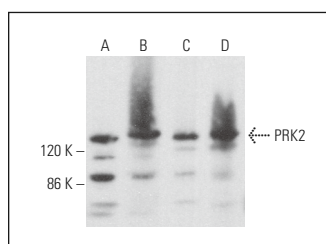
PRK2 (A-3) is also recommended for detection of PRK2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PRK2 siRNA (h): sc-39219, PRK2 siRNA (m): sc-39220, PRK2 shRNA Plasmid (h): sc-39219-SH, PRK2 shRNA Plasmid (m): sc-39220-SH, PRK2 shRNA (h) Lentiviral Particles: sc-39219-V and PRK2 shRNA (m) Lentiviral Particles: sc-39220-V.

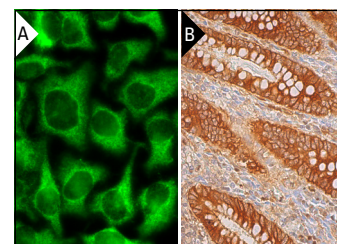
Molecular Weight of PRK2: 130 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

DATA



PRK2 (A-3): sc-271971. Western blot analysis of PRK2 expression in K-562 (A), PC-3 (B), WiDr (C) and NIH/3T3 (D) whole cell lysates.



PRK2 (A-3): sc-271971. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and nuclear staining of glandular cells and lymphoid cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ: BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216 (B).

SELECT PRODUCT CITATIONS

1. O'Sullivan, A.G., et al. 2015. Protein kinase C-related kinase 1 and 2 play an essential role in thromboxane-mediated neoplastic responses in prostate cancer. *Oncotarget* 6: 26437-26456.
2. Xie, S., et al. 2021. MiR-1307 promotes hepatocarcinogenesis by CALR-OSTC-endoplasmic reticulum protein folding pathway. *iScience* 24: 103271.
3. Soundararajan, A., et al. 2022. Novel insight into the role of clusterin on intraocular pressure regulation by modifying actin polymerization and extracellular matrix remodeling in the trabecular meshwork. *J. Cell. Physiol.* 237: 3012-3029.

RESEARCH USE

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