

PKN (H-234): sc-7161

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 act as molecular switches which are able to turn cytokinesis on and off. Although little is known about signaling downstream of Rho, several proteins have been implicated as Rho effectors. Protein kinase N (PKN) is a fatty acid-activated serine/threonine kinase whose catalytic domain exhibits homology with that of the PKC family. PKN associates with Rho via its amino terminus, is activated in a GTP-dependent manner and phosphorylates the head-rod domain of neurofilament protein. A second protein, rhophilin, exhibits 40% sequence identity with the amino terminal Rho binding domain. The enzymatic activity of rhophilin has not been demonstrated and it is possible that it acts through the recruitment of cytoskeletal components that initiate a kinase signaling cascade. Citron interacts specifically with active Rho and Rac 1 but not Cdc42. Citron exhibits a distinctive protein organization and little homology with the Rho binding domains of PKN and rhophilin.

CHROMOSOMAL LOCATION

Genetic locus: PKN1 (human) mapping to 19p13.12; Pkn1 (mouse) mapping to 8 C2.

SOURCE

PKN (H-234) is a rabbit polyclonal antibody raised against amino acids 569-803 mapping at the C-terminus of PKN of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PKN (H-234) is recommended for detection of PKN 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), 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 PKN siRNA (h): sc-36261, PKN siRNA (m): sc-36262, PKN shRNA Plasmid (h): sc-36261-SH, PKN shRNA Plasmid (m): sc-36262-SH, PKN shRNA (h) Lentiviral Particles: sc-36261-V and PKN shRNA (m) Lentiviral Particles: sc-36262-V.

Molecular Weight of PKN: 120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, H4 cell lysate: sc-2408 or human pancreas extract: sc-363770.

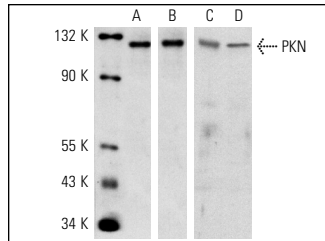
STORAGE

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

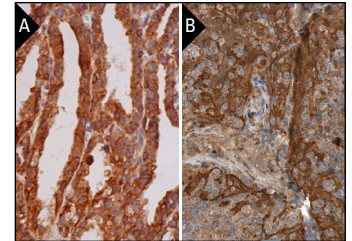
RESEARCH USE

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

DATA



Western blot analysis of PKN expression in Jurkat (A, C) and H4 (B, D) whole cell lysates. Antibodies tested include PKN (N-19): sc-1843 (A), PKN (C-19): sc-1842 (B) and PKN (H-234): sc-7161 (C, D).



PKN (H-234): sc-7161. Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic and membrane staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of surface epithelial cells high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Metzger, E., et al. 2003. A novel inducible transactivation domain in the androgen receptor: implications for PRK in prostate cancer. *EMBO J.* 22: 270-280.
2. Sato, K., et al. 2003. Spike formation by fibroblasts adhering to fibrillar collagen I gel. *Cell Struct. Funct.* 28: 229-241.
3. Collins, B.J., et al. 2005. *In vivo* role of the phosphate groove of PDK1 defined by knockin mutation. *J. Cell Sci.* 118: 5023-5034.
4. Fischer, A., et al. 2007. Impaired tight junction sealing and precocious involution in mammary glands of PKN1 transgenic mice. *J. Cell Sci.* 120: 2272-2283.
5. Bourguignon, L.Y., et al. 2007. Hyaluronan-CD44 interaction stimulates Rac 1 signaling and PKN γ kinase activation leading to cytoskeleton function and cell migration in astrocytes. *J. Neurochem.* 101: 1002-1017.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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Try **PKN (H-4): sc-393344** or **PKN (A-8): sc-7969**, our highly recommended monoclonal alternatives to PKN (H-234).