

PKD2 (F-2): sc-374344

BACKGROUND

PKD2 (protein kinase D2), also known as PRKD2 or HSPC187, is a widely expressed protein belonging to the protein kinase D (PKD) family of serine/threonine kinases. In mammals, there are three members of the PKD family, namely PKC μ , PKD2 and PKC ν , and each contain a homologous catalytic domain but differ in their tissue expression and subcellular localization. PKD family members are activated by G protein-coupled receptors (GPCRs) and are known to participate in biological processes such as proliferation, apoptosis, migration, signal transduction and vesicle shedding. Shuttling between the nucleus and the cytoplasm, PKD2 contains one PH domain, one protein kinase domain and two phorbol-ester/DAG-type zinc fingers, and functions as a calcium-independent, phospholipid-dependent protein kinase. Upon activation of CCK-BR, PKD2 is phosphorylated by casein kinase I isoforms and subsequently accumulates in the nucleus. The result of the nuclear accumulation of PKD2 is the transcriptional activation of Nur77 and the nuclear exclusion of HDAC7. This suggests that PKD2 mediates CCK-BR-induced transcriptional activation.

REFERENCES

1. Sturany, S., et al. 2001. Molecular cloning and characterization of the human protein kinase D2. A novel member of the protein kinase D family of serine threonine kinases. *J. Biol. Chem.* 276: 3310-3318.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607074. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Kovalevska, L.M., et al. 2006. Immunohistochemical studies of protein kinase D (PKD) 2 expression in malignant human lymphomas. *Exp. Oncol.* 28: 225-230.

CHROMOSOMAL LOCATION

Genetic locus: PRKD2 (human) mapping to 19q13.32; Prkd2 (mouse) mapping to 7 A2.

SOURCE

PKD2 (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 847-876 at the C-terminus of PKD2 of human origin.

PRODUCT

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

PKD2 (F-2) is available conjugated to agarose (sc-374344 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374344 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374344 PE), fluorescein (sc-374344 FITC), Alexa Fluor® 488 (sc-374344 AF488), Alexa Fluor® 546 (sc-374344 AF546), Alexa Fluor® 594 (sc-374344 AF594) or Alexa Fluor® 647 (sc-374344 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374344 AF680) or Alexa Fluor® 790 (sc-374344 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374344 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

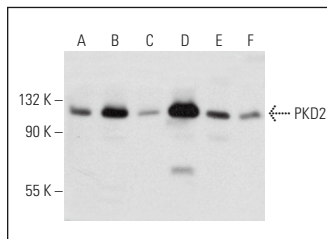
PKD2 (F-2) is recommended for detection of PKD2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 PKD2 siRNA (h): sc-76155, PKD2 siRNA (m): sc-76156, PKD2 shRNA Plasmid (h): sc-76155-SH, PKD2 shRNA Plasmid (m): sc-76156-SH, PKD2 shRNA (h) Lentiviral Particles: sc-76155-V and PKD2 shRNA (m) Lentiviral Particles: sc-76156-V.

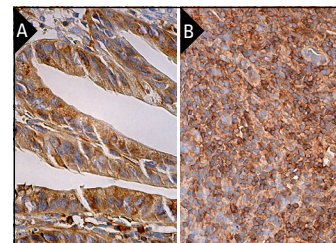
Molecular Weight of PKD2: 105 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or PC-12 cell lysate: sc-2250.

DATA



PKD2 (F-2): sc-374344. Western blot analysis of PKD2 expression in HeLa (A), Jurkat (B), NIH/3T3 (C), TK-1 (D), PC-12 (E) and NRK (F) whole cell lysates.



PKD2 (F-2): sc-374344. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lymph node tissue showing cytoplasmic and membrane staining of cells in germinal center and cells in non-germinal center (B).

SELECT PRODUCT CITATIONS

1. Koutník, J., et al. 2022. Addressing the role of PKD3 in the T cell compartment with knockout mice. *Cell Commun. Signal.* 20: 54.
2. Obata, Y., et al. 2023. Golgi retention and oncogenic KIT signaling via PLC γ 2-PKD2-PI4KIII β activation in gastrointestinal stromal tumor cells. *Cell Rep.* 42: 113035.

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.

PROTOCOLS

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

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