

PKD2 (431.2): sc-100415

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/>

CHROMOSOMAL LOCATION

Genetic locus: PRKD2 (human) mapping to 19q13.32.

SOURCE

PKD2 (431.2) is a mouse monoclonal antibody raised against recombinant PKD2 of human origin.

PRODUCT

Each vial contains 50 μ g IgG_{2b} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PKD2 (431.2) is recommended for detection of PKD2 of human origin by Western Blotting (starting dilution 1:200, 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 shRNA Plasmid (h): sc-76155-SH and PKD2 shRNA (h) Lentiviral Particles: sc-76155-V.

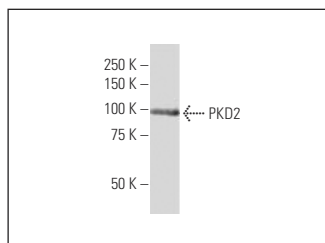
Molecular Weight of PKD2: 105 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

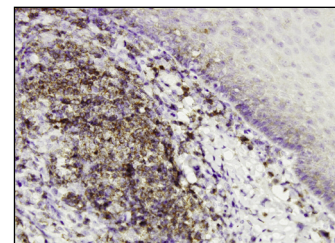
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PKD2 (431.2): sc-100415. Western blot analysis of PKD2 expression in HeLa whole cell lysate.



PKD2 (431.2): sc-100415. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Jiang, Q., et al. 2014. Golgin-84-associated Golgi fragmentation triggers Tau hyperphosphorylation by activation of cyclin-dependent kinase-5 and extracellular signal-regulated kinase. *Neurobiol. Aging* 35: 1352-1363.
2. Bulley, S., et al. 2018. Arterial smooth muscle cell PKD2 (TRPP1) channels regulate systemic blood pressure. *Elife* 7: e42628.
3. MacKay, C.E., et al. 2020. Intravascular flow stimulates PKD2 (polycystin-2) channels in endothelial cells to reduce blood pressure. *Elife* 9: e56655.
4. MacKay, C.E., et al. 2020. Correction: intravascular flow stimulates PKD2 (polycystin-2) channels in endothelial cells to reduce blood pressure. *Elife* 9: e60401.
5. Bulley, S., et al. 2020. Correction: arterial smooth muscle cell PKD2 (TRPP1) channels regulate systemic blood pressure. *Elife* 9: e60403.

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.