SANTA CRUZ BIOTECHNOLOGY, INC.

PKD2 (E-20): sc-74839

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.
4. Irie, A., et al. 2006. Protein kinase D2 contributes to either IL-2 promoter regulation or induction of cell death upon TCR stimulation depending on its activity in Jurkat cells. Int. Immunol. 18: 1737-1747.
5. von Blume, J., et al. 2007. Phosphorylation at Ser 244 by CK1 determines nuclear localization and substrate targeting of PKD2. EMBO J. 26: 4619-4633.

CHROMOSOMAL LOCATION

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

SOURCE

PKD2 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PKD2 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.

Blocking peptide available for competition studies, sc-74839 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKD2 (E-20) is recommended for detection of PKD2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

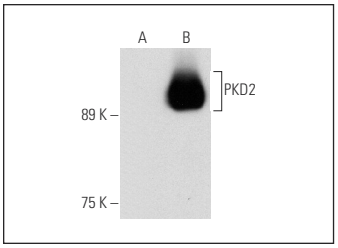
PKD2 (E-20) is also recommended for detection of PKD2 in additional species, including canine.

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.

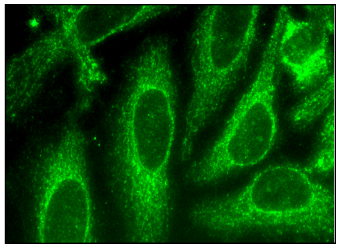
Molecular Weight of PKD2: 105 kDa.

Positive Controls: PKD2 (m2): 293T Lysate: sc-127343 or HeLa whole cell lysate: sc-2200.

DATA



PKD2 (E-20): sc-74839. Western blot analysis of PKD2 expression in non-transfected: sc-117752 (**A**) and mouse PKD2 transfected: sc-127343 (**B**) 293T whole cell lysates.



PKD2 (E-20): sc-74839. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Brenner, W., et al. 2010. Adhesion of renal carcinoma cells to endothelial cells depends on PKCμ. BMC Cancer 10: 183.

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.