

PKD2 (m): 293T Lysate: sc-127342

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., Van Lint, J., Muller, F., Wilda, M., Hameister, H., Hocker, M., Brey, A., Gern, U., Vandenheede, J., Gress, T., Adler, G. and Seufferlein, T. 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., Yurchenko, O.V., Shlapatska, L.M., Berdova, G.G., Mikhlap, S.V., Van Lint, J. and Sidorenko, S.P. 2006. Immunohistochemical studies of protein kinase D (PKD) 2 expression in malignant human lymphomas. *Exp. Oncol.* 28: 225-230.
4. Irie, A., Harada, K., Tsukamoto, H., Kim, J.R., Araki, N. and Nishimura, Y. 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., Knippschild, U., Dequiedt, F., Giamas, G., Beck, A., Auer, A., Van Lint, J., Adler, G. and Seufferlein, T. 2007. Phosphorylation at Ser 244 by CK1 determines nuclear localization and substrate targeting of PKD2. *EMBO J.* 26: 4619-4633.
6. Sinnott-Smith, J., Zhukova, E., Rey, O. and Rozengurt, E. 2007. Protein kinase D2 potentiates MEK/ERK/Rsk signaling, c-Fos accumulation and DNA synthesis induced by bombesin in Swiss 3T3 cells. *J. Cell. Physiol.* 211: 781-790.
7. Ge, X., Low, B., Liang, M. and Fu, J. 2007. Angiotensin II directly triggers endothelial exocytosis via protein kinase C-dependent protein kinase D2 activation. *J. Pharmacol. Sci.* 105: 168-176.
8. Ellwanger, K., Pfizenmaier, K., Lutz, S. and Hausser, A. 2008. Expression patterns of protein kinase D 3 during mouse development. *BMC Dev. Biol.* 8: 47.

CHROMOSOMAL LOCATION

Genetic locus: Prkd2 (mouse) mapping to 7 A2.

PRODUCT

PKD2 (m): 293T Lysate represents a lysate of mouse PKD2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

PKD2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PKD2 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.