

PKN β (E-20): sc-67772

BACKGROUND

PKN β (protein kinase PKN β) also known as PKN3, is a protein kinase-related molecule belonging to the AGC Serine/Threonine protein kinase family. It contains one protein kinase domain, three REM repeats and one AGC-kinase domain at its C-terminus. PKN β is not expressed in normal adult tissues but is found in prostate tumors and various other cancer cell lines localizing to the nucleus and the perinuclear region of the cytoplasm. PKN β may play a role in the invasiveness of malignant prostate cancer. This is suggested by the impaired growth and reduced metastases formation after knockdown of PKN β expression in mouse prostate tumor cells. PKN β expression and activity is regulated by PI 3-kinase. In humans, the phosphorylation of PKN β at Thr-718 and Thr-860 is required for the activation of its kinase activity.

REFERENCES

- Oishi, K., Mukai, H., Shibata, H., Takahashi, M. and Ono, Y. 1999. Identification and characterization of PKN β , a novel isoform of protein kinase PKN: expression and arachidonic acid dependency are different from those of PKN α . *Biochem. Biophys. Res. Commun.* 261: 808-814.
- Shibata, H., Oishi, K., Yamagiwa, A., Matsumoto, M., Mukai, H. and Ono, Y. 2001. PKN β interacts with the SH3 domains of Graf and a novel Graf related protein, Graf2, which are GTPase activating proteins for Rho family. *J. Biochem.* 130: 23-31.
- Oishi, K., Takahashi, M., Mukai, H., Banno, Y., Nakashima, S., Kanaho, Y., Nozawa, Y. and Ono, Y. 2001. PKN regulates phospholipase D1 through direct interaction. *J. Biol. Chem.* 276: 18096-18101.
- Online Mendelian Inheritance in Man, OMIMTM. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610714. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Leenders, F., Möpert, K., Schmiedeknecht, A., Santel, A., Czauderna, F., Aleku, M., Penschuck, S., Dames, S., Sternberger, M., Röhl, T., Wellmann, A., Arnold, W., Giese, K., Kaufmann, J. and Klippel, A. 2004. PKN3 is required for malignant prostate cell growth downstream of activated PI 3-kinase. *EMBO J.* 23: 3303-3313.
- Mukai, H. and Ono, Y. 2006. Purification and kinase assay of PKN. *Meth. Enzymol.* 406: 234-250.
- Wissing, J., Jänsch, L., Nimtz, M., Dieterich, G., Hornberger, R., Kéri G., Wehland, J. and Daub, H. 2007. Proteomics analysis of protein kinases by target class-selective prefractionation and tandem mass spectrometry. *Mol. Cell Proteomics* 6: 537-547.

CHROMOSOMAL LOCATION

Genetic locus: Pkn3 (rat) mapping to 3p12.

SOURCE

PKN β (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PKN β of rat origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-67772 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

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

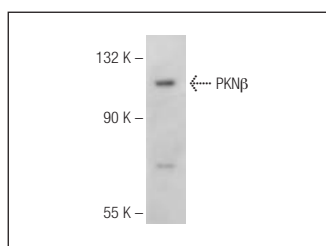
Molecular Weight of PKN β : 99 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz MarkerTM compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz MarkerTM Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruzTM Mounting Medium: sc-24941.

DATA



PKN β (E-20): sc-67772. Western blot analysis of PKN β expression in HeLa whole cell lysate.

STORAGE

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

PROTOCOLS

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