SANTA CRUZ BIOTECHNOLOGY, INC.

PKNβ siRNA (h): sc-62822

BACKGROUND

PKNβ (protein kinase PKNβ), 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. PKNβ 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. PKNβ 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 PKNβ expression in mouse prostate tumor cells. PKNβ expression and activity is regulated by PI 3-kinase. In humans, the phosphorylation of PKNβ at Thr 718 and Thr 860 is required for the activation of its kinase activity.

REFERENCES

1. Oishi, K., et al. 1999. Identification and characterization of PKNβ, a novel isoform of protein kinase PKN: expression and arachidonic acid dependency are different from those of PKNα. Biochem. Biophys. Res. Commun. 261: 808-814.
2. Shibata, H., et al. 2001. PKNβ 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.
3. Oishi, K., et al. 2001. PKN regulates phospholipase D1 through direct interaction. J. Biol. Chem. 276: 18096-18101.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610714. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Leenders, F., et al. 2004. PKN3 is required for malignant prostate cell growth downstream of activated PI 3-kinase. EMBO J. 23: 3303-3313.
6. Mukai, H. and Ono, Y. 2006. Purification and kinase assay of PKN. Methods Enzymol. 406: 234-250.

CHROMOSOMAL LOCATION

Genetic locus: PKN3 (human) mapping to 9q34.11.

PRODUCT

PKNβ siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PKNβ shRNA Plasmid (h): sc-62822-SH and PKNβ shRNA (h) Lentiviral Particles: sc-62822-V as alternate gene silencing products.

For independent verification of PKNβ (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62822A, sc-62822B and sc-62822C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PKNβ siRNA (h) is recommended for the inhibition of PKNβ expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PKNβ gene expression knockdown using RT-PCR Primer: PKNβ (h)-PR: sc-62822-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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