SANTA CRUZ BIOTECHNOLOGY, INC.

PKDCC siRNA (h): sc-94454

BACKGROUND

PKDCC (protein kinase domain-containing protein, cytoplasmic) also known as protein kinase-like protein SgK493, sugen kinase 493 or vertebrate lonesome kinase, is 493 animo acid protein belonging to the protein kinase superfamily. PKDCC is found in the Golgi apparatus and is involved in protein transport to the plasma membrane and is also important in ATP binding, nucleotide binding, protein kinase activity, transferase activity and is required for longitudinal bone growth through regulation of chondrocyte differentiation. The PKDCC gene is conserved in chimpanzee, canine, mouse, rat and zebrafish, and the PKDCC protein is ubiquitously expressed in human tissues. PKDCC is suggested to be associated with atopy and atopic individuals with asthma, however murine PKDCC knockouts show extreme phenotypes that are unrelated to atopy or asthma, suggesting an additional role in abnormal respiration.

REFERENCES

1. Hanks, S.K. 2003. Genomic analysis of the eukaryotic protein kinase superfamily: a perspective. Genome Biol. 4: 111.
2. Castro-Giner, F., et al. 2009. A pooling-based genome-wide analysis identifies new potential candidate genes for atopy in the European community respiratory health survey (ECRHS). BMC Med. Genet. 10: 128.
3. Sewell, W., et al. 2009. Cyclical expression of the Notch/Wnt regulator Nrarp requires modulation by Dll3 in somitogenesis. Dev. Biol. 329: 400-409.
4. Imuta, Y., et al. 2009. Short limbs, cleft palate, and delayed formation of flat proliferative chondrocytes in mice with targeted disruption of a putative protein kinase gene, PKDCC (AW548124). Dev. Dyn. 238: 210-222.
5. Kinoshita, M., et al. 2009. The novel protein kinase Vlk is essential for stromal function of mesenchymal cells. Development 136: 2069-2079.

CHROMOSOMAL LOCATION

Genetic locus: PKDCC (human) mapping to 2p21.

PRODUCT

PKDCC siRNA (h) is a target-specific 19-25 nt siRNA 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 PKDCC shRNA Plasmid (h): sc-94454-SH and PKDCC shRNA (h) Lentiviral Particles: sc-94454-V as alternate gene silencing 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

PKDCC siRNA (h) is recommended for the inhibition of PKDCC 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.

GENE EXPRESSION MONITORING

PKDCC (G-10): sc-514504 is recommended as a control antibody for monitoring of PKDCC gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PKDCC gene expression knockdown using RT-PCR Primer: PKDCC (h)-PR: sc-94454-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Maddala, R., et al. 2017. Vertebrate lonesome kinase regulated extracellular matrix protein phosphorylation, cell shape, and adhesion in trabecular meshwork cells. J. Cell. Physiol. 232: 2447-2460.

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.