SANTA CRUZ BIOTECHNOLOGY, INC.

PRKX siRNA (m): sc-108005

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. PRKX (protein kinase, X-linked), also known as PKX1, is a 358 amino acid member of the AGC Ser/Thr protein kinase family and belongs to the subfamily of cAMP-dependent kinases. Highly expressed in adult and fetal brain, lung and kidney with lower expression in adult heart, pancreas, liver, placenta, skeletal muscle and fetal liver, PRKX is developmentally regulated and contains one protein kinase domain and one C-terminal AGC-kinase domain. PRKX is essential for macrophage differentiation and participates in renal epithelial cell migration. Disruption of the gene encoding PRKX due to a chromosomal aberration can result in sex reversal disorder.

REFERENCES

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3. Li, X., et al. 2002. PRKX, a phylogenetically and functionally distinct cAMP-dependent protein kinase, activates renal epithelial cell migration and morphogenesis. Proc. Natl. Acad. Sci. USA 99: 9260-9265.
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5. Li, X., et al. 2005. Protein kinase X activates ureteric bud branching morphogenesis in developing mouse metanephric kidney. J. Am. Soc. Nephrol. 16: 3543-3552.
6. Li, W., et al. 2005. Profiles of PrKX expression in developmental mouse embryo and human tissues. J. Histochem. Cytochem. 53: 1003-1009.
7. Glesne, D. and Huberman, E. 2006. Smad6 is a protein kinase X phosphorylation substrate and is required for HL-60 cell differentiation. Oncogene 25: 4086-4098.
8. Diskar, M., et al. 2007. Molecular basis for isoform-specific autoregulation of protein kinase A. Cell. Signal. 19: 2024-2034.
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CHROMOSOMAL LOCATION

Genetic locus: Prkx (mouse) mapping to X A7.3.

PROTOCOLS

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

PRODUCT

PRKX siRNA (m) 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 PRKX shRNA Plasmid (m): sc-108005-SH and PRKX shRNA (m) Lentiviral Particles: sc-108005-V as alternate gene silencing products.

For independent verification of PRKX (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-108005A, sc-108005B and sc-108005C.

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

PRKX siRNA (m) is recommended for the inhibition of PRKX expression in mouse 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 PRKX gene expression knockdown using RT-PCR Primer: PRKX (m)-PR: sc-108005-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.