



PRKY siRNA (h): sc-62858

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. PRKY (protein kinase, Y-linked) is a 277 amino acid member of the Ser/Thr protein kinase family and belongs to the subfamily of cAMP-dependent kinases. Encoded by a gene that is located near the pseudoautosomal region on chromosome Y, PRKY contains one protein kinase domain through which it catalyzes the ATP-dependent phosphorylation of target proteins. Defects in the gene encoding PRKY are associated with sex reversal disorder, namely XX in males and XY in females.

REFERENCES

1. Schiebel, K., et al. 1997. FISH localization of the human Y-homolog of protein kinase PRKX (PRKY) to Yp11.2 and two pseudogenes to 15q26 and Xq12→q13. *Cytogenet. Cell Genet.* 76: 49-52.
2. Schiebel, K., et al. 1997. Abnormal XY interchange between a novel isolated protein kinase gene, PRKY, and its homologue, PRKX, accounts for one third of all (Y+)XX males and (Y-)XY females. *Hum. Mol. Genet.* 6: 1985-1989.
3. McElreavey, K. and Fellous, M. 1999. Sex determination and the Y chromosome. *Am. J. Med. Genet.* 89: 176-185.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 400008. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Su, M.T., et al. 2006. Presence of TSPY transcript and absence of transcripts of other Y chromosomal genes in a case of microscopic gonadoblastoma. *Gynecol. Oncol.* 103: 357-360.
6. Jobling, M.A., et al. 2007. Structural variation on the short arm of the human Y chromosome: recurrent multigene deletions encompassing Amelogenin Y. *Hum. Mol. Genet.* 16: 307-316.

CHROMOSOMAL LOCATION

Genetic locus: PRKY (human) mapping to Yp11.2.

PRODUCT

PRKY 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PRKY shRNA Plasmid (h): sc-62858-SH and PRKY shRNA (h) Lentiviral Particles: sc-62858-V as alternate gene silencing products.

For independent verification of PRKY (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-62858A, sc-62858B and sc-62858C.

RESEARCH USE

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PRKY siRNA (h) is recommended for the inhibition of PRKY 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 μ M in 66 μ l. 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 PRKY gene expression knockdown using RT-PCR Primer: PRKY (h)-PR: sc-62858-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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