SANTA CRUZ BIOTECHNOLOGY, INC.

PKDREJ siRNA (m): sc-76158

BACKGROUND

PKDREJ (polycystic kidney disease and receptor for egg jelly-related protein) is a 2,253 amino acid multi-pass membrane protein that belongs to the polycystin family and is encoded by an intronless gene. Expressed exclusively in testis, PKDREJ is thought to play a key role in fertilization, possibly by generating a calcium transport channel that is directly associated with the acrosome reaction of the sperm. Human PKDREJ, which can exist as homomultimers or heteromultimers, shares 64% identity with its mouse homolog, suggesting a conserved function between species. PKDREJ contains one receptor for egg jelly (REJ) domain, eleven transmembrane domains, one G protein-coupled receptor proteolytic site (GPS) domain and one lipoxygenase domain. Several isoforms of PKDREJ exist due to alternative splicing events.

REFERENCES

1. Moy, G.W., et al. 1996. The sea urchin sperm receptor for egg jelly is a modular protein with extensive homology to the human polycystic kidney disease protein, PKD1. J. Cell Biol. 133: 809-817.
2. Hughes, J., et al. 1999. Identification of a human homologue of the sea urchin receptor for egg jelly: a polycystic kidney disease-like protein. Hum. Mol. Genet. 8: 543-549.
3. Mengerink, K.J., et al. 2000. suREJ proteins: new signalling molecules in sea urchin spermatozoa. Zygote 8: S28-S30.
4. Qian, F., et al. 2002. Cleavage of polycystin-1 requires the receptor for egg jelly domain and is disrupted by human autosomal-dominant polycystic kidney disease 1-associated mutations. Proc. Natl. Acad. Sci. USA 99: 16981-16986.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604670. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Galindo, B.E., et al. 2004. A third sea urchin sperm receptor for egg jelly module protein, suREJ2, concentrates in the plasma membrane over the sperm mitochondrion. Dev. Growth Differ. 46: 53-60.

CHROMOSOMAL LOCATION

Genetic locus: Pkdrej (mouse) mapping to 15 E2.

PRODUCT

PKDREJ 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 PKDREJ shRNA Plasmid (m): sc-76158-SH and PKDREJ shRNA (m) Lentiviral Particles: sc-76158-V as alternate gene silencing products.

For independent verification of PKDREJ (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-76158A, sc-76158B and sc-76158C.

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 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

PKDREJ siRNA (m) is recommended for the inhibition of PKDREJ 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 PKDREJ gene expression knockdown using RT-PCR Primer: PKDREJ (m)-PR: sc-76158-PR (20 µl). 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.