



Polycystin-L siRNA (m): sc-152386

BACKGROUND

Polycystin-L, also known as PKD2L1 (polycystic kidney disease 2-like 1), PCL, PKDL or PKD2L, is an 805 amino acid multi-pass membrane protein that belongs to the polycystin family of transmembrane proteins. Expressed in brain, heart, testis, spleen, liver and skeletal muscle, as well as in fetal kidney and liver, Polycystin-L functions as a calcium-regulated cation channel that is permeable to sodium, potassium and calcium, and is involved in cell-cell and cell-matrix interactions. Polycystin-L shares 50% amino acid identity with a related family member, Polycystin-2, suggesting that Polycystin-L may be involved in the pathogenesis of polycystic kidney disease. Multiple alternatively spliced isoforms of Polycystin-L exist, all of which are encoded by a gene that maps to human chromosome 10.

REFERENCES

1. Wu, G., et al. 1998. Identification of PKD2L, a human PKD2-related gene: tissue-specific expression and mapping to chromosome 10q25. *Genomics* 54: 564-568.
2. Nomura, H., et al. 1998. Identification of PKDL, a novel polycystic kidney disease 2-like gene whose murine homologue is deleted in mice with kidney and retinal defects. *J. Biol. Chem.* 273: 25967-25973.
3. Guo, L., et al. 2000. The human polycystic kidney disease 2-like (PKDL) gene: exon/intron structure and evidence for a novel splicing mechanism. *Mamm. Genome* 11: 46-50.
4. Stayner, C. and Zhou, J. 2001. Polycystin channels and kidney disease. *Trends Pharmacol. Sci.* 22: 543-546.
5. Li, Q., et al. 2002. The calcium-binding EF-hand in Polycystin-L is not a domain for channel activation and ensuing inactivation. *FEBS Lett.* 516: 270-278.
6. Basora, N., et al. 2002. Tissue and cellular localization of a novel polycystic kidney disease-like gene product, Polycystin-L. *J. Am. Soc. Nephrol.* 13: 293-301.
7. Li, Q., et al. 2003. Troponin I binds Polycystin-L and inhibits its calcium-induced channel activation. *Biochemistry* 42: 7618-7625.

CHROMOSOMAL LOCATION

Genetic locus: Pkd2l1 (mouse) mapping to 19 C3.

PRODUCT

Polycystin-L 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Polycystin-L shRNA Plasmid (m): sc-152386-SH and Polycystin-L shRNA (m) Lentiviral Particles: sc-152386-V as alternate gene silencing products.

For independent verification of Polycystin-L (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-152386A, sc-152386B and sc-152386C.

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

Polycystin-L siRNA (m) is recommended for the inhibition of Polycystin-L 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 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 Polycystin-L gene expression knockdown using RT-PCR Primer: Polycystin-L (m)-PR: sc-152386-PR (20 μ l). 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.

PROTOCOLS

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