



Podocan siRNA (h): sc-88314

BACKGROUND

Non-collagenous proteins of the small leucine-rich repeat (SLR) protein family are considered important components of the extracellular matrix. The extracellular matrix plays an integral role in the pivotal processes of development, tissue repair and metastasis by regulating cell proliferation, differentiation, adhesion and migration. Podocan, also known as PCAN, SLRR5A or PODN, is a 613 amino acid secreted protein belonging to the small leucine-rich proteoglycan (SLRP) family and the class V subfamily. Expressed in kidney, heart, liver, pancreas and vascular smooth muscle cells, Podocan exists as 3 alternatively spliced isoforms containing 20 LRR (leucine-rich repeats), a unique N-terminal cysteine-rich cluster pattern and a highly acidic C-terminal domain. Podocan is considered a glycoprotein containing N-linked oligosaccharides that may be involved in growth regulation in cardiovascular tissues. Encoded by a gene located on human chromosome 1, Podocan interacts type I collagen (COL1).

REFERENCES

1. Hocking, A.M., et al. 1998. Leucine-rich repeat glycoproteins of the extracellular matrix. *Matrix Biol.* 17: 1-19.
2. Ross, M.D., et al. 2003. Podocan, a novel small leucine-rich repeat protein expressed in the sclerotic glomerular lesion of experimental HIV-associated nephropathy. *J. Biol. Chem.* 278: 33248-33255.
3. Shimizu-Hirota, R., et al. 2004. Functional characterization of Podocan, a member of a new class in the small leucine-rich repeat protein family. *FEBS Lett.* 563: 69-74.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608661. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Naito, Z. 2005. Role of the small leucine-rich proteoglycan (SLRP) family in pathological lesions and cancer cell growth. *J. Nippon Med. Sch.* 72: 137-145.
6. McEwan, P.A., et al. 2006. Structural correlations in the family of small leucine-rich repeat proteins and proteoglycans. *J. Struct. Biol.* 155: 294-305.

CHROMOSOMAL LOCATION

Genetic locus: PODN (human) mapping to 1p32.3.

PRODUCT

Podocan 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 Podocan shRNA Plasmid (h): sc-88314-SH and Podocan shRNA (h) Lentiviral Particles: sc-88314-V as alternate gene silencing products.

For independent verification of Podocan (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-88314A, sc-88314B and sc-88314C.

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

Podocan siRNA (h) is recommended for the inhibition of Podocan 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 Podocan gene expression knockdown using RT-PCR Primer: Podocan (h)-PR: sc-88314-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.