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Podocalyxin-like 1 siRNA (h): sc-44029

BACKGROUND

Sialomucins are a family of cell adhesion molecules that mediate the interaction between leukocytes and endothelial cells during the inflammatory process. Podocalyxin-like protein 1 (PCLP1), a member of the sialomucin family, is a transmembrane glycoprotein and is structurally related to the L-Selectin ligand, CD34. Podocalyxin-like protein 1 encodes a 21 amino acid N-terminal signal peptide and a 26 amino acid transmembrane region. The extracellular domain contains sites for N- and O-linked glycosylation and the intracellular domain has several potential phosphorylated sites. Podocalyxin-like protein 1 is expressed on podocyte foot processes, where it maintains the glomerular filtration barrier. It is also expressed in endothelial cells as well as hemangioblasts, a precursor of hematopoietic stem cells (HSC). Subsequently, Podocalyxin-like protein 1 is thought to be an appropriate marker for hemangioblast detection.

REFERENCES

1. Lasky, L.A. 1994. Sialomucin ligands for selectins: a new family of cell adhesion molecules. *Princess Takamatsu Symp.* 24: 81-90.
2. Kershaw, D.B., et al. 1995. Molecular cloning, expression, and characterization of podocalyxin-like protein 1 from rabbit as a transmembrane protein of glomerular podocytes and vascular endothelium. *J. Biol. Chem.* 270: 29439-29446.
3. Yang, D.H., et al. 1996. Glomerular epithelial protein 1 and Podocalyxin-like protein 1 in inflammatory glomerular disease (crescentic nephritis) in rabbit and man. *Lab. Invest.* 74: 571-584.

CHROMOSOMAL LOCATION

Genetic locus: PODXL (human) mapping to 7q32.3.

PRODUCT

Podocalyxin-like 1 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 Podocalyxin-like 1 shRNA Plasmid (h): sc-44029-SH and Podocalyxin-like 1 shRNA (h) Lentiviral Particles: sc-44029-V as alternate gene silencing products.

For independent verification of Podocalyxin-like 1 (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-44029A, sc-44029B and sc-44029C.

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

Podocalyxin-like 1 siRNA (h) is recommended for the inhibition of Podocalyxin-like 1 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.

GENE EXPRESSION MONITORING

Podocalyxin-like 1 (4F10): sc-23903 is recommended as a control antibody for monitoring of Podocalyxin-like 1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Podocalyxin-like 1 gene expression knockdown using RT-PCR Primer: Podocalyxin-like 1 (h)-PR: sc-44029-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Schopperle, W.M., et al. 2010. The human cancer and stem cell marker podocalyxin interacts with the glucose-3-transporter in malignant pluripotent stem cells. *Biochem. Biophys. Res. Commun.* 398: 372-376.

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.