

Podocalyxin-like 1 (4F10): sc-23903

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.

CHROMOSOMAL LOCATION

Genetic locus: PODXL (human) mapping to 7q32.3; Podxl (mouse) mapping to 6 A3.3.

SOURCE

Podocalyxin-like 1 (4F10) is a mouse monoclonal antibody raised against human recombinant podocalyxin-like protein.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Podocalyxin-like 1 (4F10) is recommended for detection of Podocalyxin-like 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Podocalyxin-like 1 siRNA (h): sc-44029, Podocalyxin-like 1 siRNA (m): sc-44765, Podocalyxin-like 1 shRNA Plasmid (h): sc-44029-SH, Podocalyxin-like 1 shRNA Plasmid (m): sc-44765-SH, Podocalyxin-like 1 shRNA (h) Lentiviral Particles: sc-44029-V and Podocalyxin-like 1 shRNA (m) Lentiviral Particles: sc-44765-V.

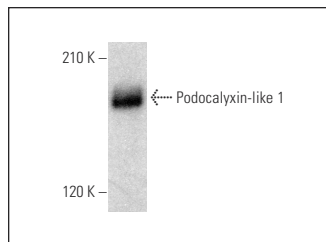
Molecular Weight of Podocalyxin-like 1: 165 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, HeLa whole cell lysate: sc-2200 or MIA PaCa-2 cell lysate: sc-2285.

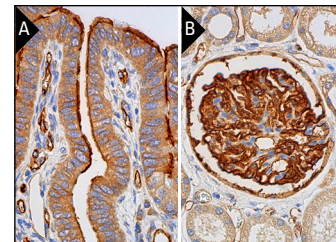
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Podocalyxin-like 1 (4F10): sc-23903. Western blot analysis of Podocalyxin-like 1 expression in HeLa whole cell lysate.



Podocalyxin-like 1 (4F10): sc-23903. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing apical membrane and cytoplasmic staining of glandular cells (A) and human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and faint cytoplasmic staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

1. Kalén, M., et al. 2011. γ -secretase inhibitor treatment promotes VEGF-A-driven blood vessel growth and vascular leakage but disrupts neovascular perfusion. PLoS ONE 6: e18709.
2. Ye, F., et al. 2012. Podocalyxin-like protein 1 expression and correlation with clinical characteristics in epithelial serous and mucinous ovarian carcinoma and tumor-like lesions. Pathobiology 79: 307-313.
3. Boman, K., et al. 2013. Membranous expression of Podocalyxin-like protein 1 is an independent factor of poor prognosis in urothelial bladder cancer. Br. J. Cancer 108: 2321-2328.
4. Suvanto, M., et al. 2015. Podocyte proteins in congenital and minimal change nephrotic syndrome. Clin. Exp. Nephrol. 19: 481-488.
5. Dong, Z., et al. 2021. Inhibition of the Wnt/ β -catenin signaling pathway reduces autophagy levels in complement treated podocytes. Exp. Ther. Med. 22: 737.
6. Abe-Fukasawa, N., et al. 2021. A liquid culture cancer spheroid model reveals low PI3K/Akt pathway activity and low adhesiveness to the extracellular matrix. FEBS J. 288: 5650-5667.
7. Ding, J., et al. 2022. Luteolin ameliorates methamphetamine-induced podocyte pathology by inhibiting Tau phosphorylation in mice. Evid. Based Complement. Alternat. Med. 2022: 5909926.
8. Priante, G., et al. 2023. Emerging perspectives on the rare tubulopathy dent disease: is glomerular damage a direct consequence of CIC-5 dysfunction? Int. J. Mol. Sci. 24: 1313.

RESEARCH USE

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