

Podocalyxin-like 1 (3D3): sc-23904

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.

CHROMOSOMAL LOCATION

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

SOURCE

Podocalyxin-like 1 (3D3) is a mouse monoclonal antibody raised against human recombinant podocalyxin-like protein.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Podocalyxin-like 1 (3D3) is available conjugated to agarose (sc-23904 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23904 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23904 PE), fluorescein (sc-23904 FITC), Alexa Fluor[®] 488 (sc-23904 AF488), Alexa Fluor[®] 546 (sc-23904 AF546), Alexa Fluor[®] 594 (sc-23904 AF594) or Alexa Fluor[®] 647 (sc-23904 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-23904 AF680) or Alexa Fluor[®] 790 (sc-23904 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Podocalyxin-like 1 (3D3) is recommended for detection of Podocalyxin-like 1 of 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 shRNA Plasmid (h): sc-44029-SH and Podocalyxin-like 1 shRNA (h) Lentiviral Particles: sc-44029-V.

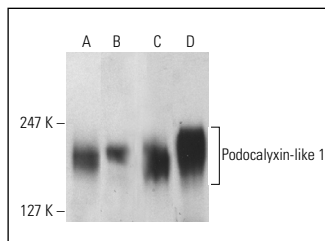
Molecular Weight of Podocalyxin-like 1: 165 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, H9 whole cell lysate: sc-364778 or MIA PaCa-2 cell lysate: sc-2285.

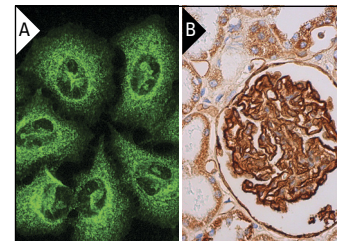
STORAGE

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 (3D3): sc-23904. Western blot analysis of Podocalyxin-like 1 expression in ECV304 (A), H9 (B), Raji (C) and MIA PaCa-2 (D) whole cell lysates.



Podocalyxin-like 1 (3D3): sc-23904. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and cytoplasmic localization (A). Podocalyxin-like 1 (3D3) HRP: sc-23904 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and cytoplasmic staining of cells in tubules. Blocked with 0.25X UltraCruz[®] Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

- Sizemore, S., et al. 2007. Podocalyxin increases the aggressive phenotype of breast and prostate cancer cells *in vitro* through its interaction with Ezrin. *Cancer Res.* 67: 6183-6191.
- Verouti, S.N., et al. 2012. Vitamin D receptor activators upregulate and rescue podocalyxin expression in high glucose-treated human podocytes. *Nephron Exp. Nephrol.* 122: 36-50.
- Tsotakos, N.E., et al. 2013. Glucose-induced gradual phenotypic modulation of cultured human glomerular epithelial cells may be independent of Wilms' tumor 1 (WT1). *BMC Cell Biol.* 14: 28.
- Chou, C.H., et al. 2014. *In vitro* modeling of the neurovascular environment by coculturing adult human brain endothelial cells with human neural stem cells. *PLoS ONE* 9: e106346.
- Kang, L., et al. 2016. The universal 3D3 antibody of human PODXL is pluripotent cytotoxic, and identifies a residual population after extended differentiation of pluripotent stem cells. *Stem Cells Dev.* 25: 556-568.
- Ling, L., et al. 2018. High glucose induces podocyte epithelial-to-mesenchymal transition by demethylation-mediated enhancement of MMP9 expression. *Mol. Med. Rep.* 17: 5642-5651.
- Wong, B.S., et al. 2019. A direct podocalyxin-Dynamin-2 interaction regulates cytoskeletal dynamics to promote migration and metastasis in pancreatic cancer cells. *Cancer Res.* 79: 2878-2891.
- Stotter, B.R., et al. 2020. Cosmc-dependent mucin-type O-linked glycosylation is essential for podocyte function. *Am. J. Physiol. Renal Physiol.* 318: F518-F530.

RESEARCH USE

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