

podoplanin (F-3): sc-376962

BACKGROUND

Puromycin aminonucleoside nephrosis (PAN) is a rat model for human minimal change nephropathy. During PAN, severe proteinuria is induced that is paralleled by a reduced expression of a rat podocyte protein, named podoplanin. Podoplanin, also known as glycoprotein 38 (gp38) is a type I membrane protein. Podoplanin localizes in stromal cells of peripheral lymphoid tissue and thymic epithelial cells. As a regulator of the lymphatic endothelium, podoplanin probably plays a role in maintaining the unique shape of podocytes.

REFERENCES

1. Farr, A.G., et al. 1992. Characterization and cloning of a novel glycoprotein expressed by stromal cells in T-dependent areas of peripheral lymphoid tissues. *J. Exp. Med.* 176: 1477-1482.
2. Farr, A., et al. 1992. Characterization of an antigenic determinant preferentially expressed by type I epithelial cells in the murine thymus. *J. Histochem. Cytochem.* 40: 651-664.
3. Schoppmann, S.F, et al. 2001. Lymphatic microvessel density and lympho-vascular invasion assessed by anti-podoplanin immunostaining in human breast cancer. *Anticancer Res.* 21: 2351-2355.
4. Ramirez, M.I., et al. 2003. T1a, a lung type I cell differentiation gene, is required for normal lung cell proliferation and alveolus formation at birth. *Dev. Biol.* 256: 61-72.
5. Groger, M., et al. 2004. IL-3 induces expression of lymphatic markers PROX1 and podoplanin in human endothelial cells. *J. Immunol.* 173: 7161-7169.

CHROMOSOMAL LOCATION

Genetic locus: PDPN (human) mapping to 1p36.21; Pdpn (mouse) mapping to 4 E1.

SOURCE

podoplanin (F-3) is a mouse monoclonal antibody raised against amino acids 1-162 representing full length podoplanin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

podoplanin (F-3) is available conjugated to agarose (sc-376962 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376962 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376962 PE), fluorescein (sc-376962 FITC), Alexa Fluor® 488 (sc-376962 AF488), Alexa Fluor® 546 (sc-376962 AF546), Alexa Fluor® 594 (sc-376962 AF594) or Alexa Fluor® 647 (sc-376962 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376962 AF680) or Alexa Fluor® 790 (sc-376962 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

podoplanin (F-3) is recommended for detection of podoplanin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for podoplanin siRNA (h): sc-62834, podoplanin siRNA (m): sc-44756, podoplanin shRNA Plasmid (h): sc-62834-SH, podoplanin shRNA Plasmid (m): sc-44756-SH, podoplanin shRNA (h) Lentiviral Particles: sc-62834-V and podoplanin shRNA (m) Lentiviral Particles: sc-44756-V.

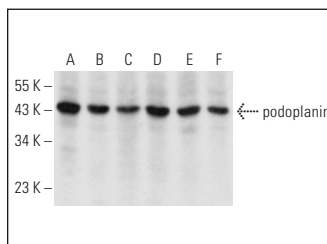
Molecular Weight of podoplanin: 43 kDa.

Positive Controls: A-673 cell lysate: sc-2414, MES-SA/Dx5 cell lysate: sc-2284 or ES-2 cell lysate: sc-24674.

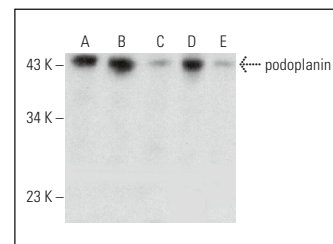
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



podoplanin (F-3): sc-376962. Western blot analysis of podoplanin expression in ARPE-19 (A), ES-2 (B), MES-SA/Dx5 (C), SHP-77 (D), RT-4 (E) and A-673 (F) whole cell lysates.



podoplanin (F-3): sc-376962. Western blot analysis of podoplanin expression in ARPE-19 (A), IB4 (B) and C3H/10T1/2 (C) whole cell lysates and mouse lymph node (D) and rat lung (E) tissue extracts.

SELECT PRODUCT CITATIONS

1. Han, L., et al. 2022. Uterus globulin associated protein 1 (UGRP1) binds podoplanin (PDPN) to promote a novel inflammation pathway during *Streptococcus pneumoniae* infection. *Clin. Transl. Med.* 12: e850.

RESEARCH USE

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