



podoplanin (4D5a55E6): sc-65436

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

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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 lymphovascular invasion assessed by anti-podoplanin immunostaining in human breast cancer. *Anticancer Res.* 21: 2351-2355.
4. Ramirez, M.I., et al. 2003. T1 α , a lung type I cell differentiation gene, is required for normal lung cell proliferation and alveolus formation at birth. *Dev. Biol.* 256: 61-72.
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7. Hara, T., et al. 2006. A transmembrane chemokine, C-X-C chemokine ligand 16, expressed by lymph node fibroblastic reticular cells has the potential to regulate T cell migration and adhesion. *Int. Immunol.* 18: 301-311.
8. Zhang, K., et al. 2006. E11/gp38 selective expression in osteocytes: regulation by mechanical strain and role in dendrite elongation. *Mol. Cell. Biol.* 26: 4539-4552.

CHROMOSOMAL LOCATION

Genetic locus: PDPN (human) mapping to 1p36.21.

SOURCE

podoplanin (4D5a55E6) is a mouse monoclonal antibody raised against podoplanin of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

podoplanin (4D5a55E6) is recommended for detection of podoplanin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 podoplanin siRNA (h): sc-62834, podoplanin shRNA Plasmid (h): sc-62834-SH and podoplanin shRNA (h) Lentiviral Particles: sc-62834-V.

Molecular Weight of podoplanin: 43 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

SELECT PRODUCT CITATIONS

1. Lin, C.I., et al. 2008. Lysophosphatidic acid up-regulates vascular endothelial growth factor-C and lymphatic marker expressions in human endothelial cells. *Cell. Mol. Life Sci.* 65: 2740-2751.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.