SANTA CRUZ BIOTECHNOLOGY, INC.

podoplanin (E-1): sc-376695

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

podoplanin (E-1) 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_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

podoplanin (E-1) is available conjugated to agarose (sc-376695 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376695 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376695 PE), fluorescein (sc-376695 FITC), Alexa Fluor® 488 (sc-376695 AF488), Alexa Fluor® 546 (sc-376695 AF546), Alexa Fluor® 594 (sc-376695 AF594) or Alexa Fluor® 647 (sc-376695 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376695 AF680) or Alexa Fluor® 790 (sc-376695 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

podoplanin (E-1) is recommended for detection of podoplanin of 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), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-62834-SH and podoplanin shRNA (h) Lentiviral Particles: sc-62834-V.

Molecular Weight of podoplanin: 43 kDa.

Positive Controls: ARPE-19 whole cell lysate: sc-364357 or A-673 cell lysate: sc-2414.

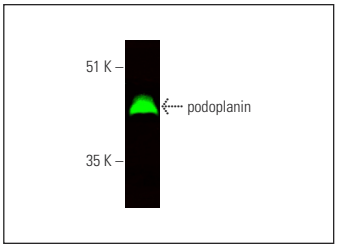
STORAGE

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

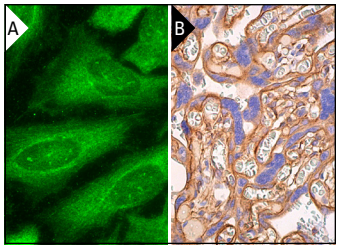
RESEARCH USE

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

DATA



podoplanin (E-1): sc-376695. Near-infrared western blot analysis of podoplanin expression in ARPE-19 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



podoplanin (E-1): sc-376695. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Takagi, S., et al. 2014. Expression of Aggrus/podoplanin in bladder cancer and its role in pulmonary metastasis. Int. J. Cancer 134: 2605-2614.
2. Chen, W.S., et al. 2016. Pathological lymphangiogenesis is modulated by galectin-8-dependent crosstalk between podoplanin and integrin-associated VEGFR-3. Nat. Commun. 7: 11302.
3. Chikaishi, Y., et al. 2017. EpCAM-independent capture of circulating tumor cells with a "universal CTC-chip". Oncol. Rep. 37: 77-82.
4. Li, Y., et al. 2018. Evidence for Kaposi sarcoma originating from mesenchymal stem cell through KSHV-induced mesenchymal-to-endothelial transition. Cancer Res. 78: 230-245.
5. Xiao, Z., et al. 2019. Lung cancer stem cells and their aggressive progeny, controlled by EGFR/MIG6 inverse expression, dictate a novel NSCLC treatment approach. Oncotarget 10: 2546-2560.
6. Kuwata, T., et al. 2020. Detection of circulating tumor cells (CTCs) in malignant pleural mesothelioma (MPM) with the "universal" CTC-chip and an anti-podoplanin antibody NZ-1.2. Cells 9: 888.
7. Michopoulou, A., et al. 2022. Benefit of coupling heparin to crosslinked collagen I/III scaffolds for human dermal fibroblast subpopulations' tissue growth. J. Biomed. Mater. Res. A 110: 797-811.
8. Park, S.Y., et al. 2022. Direct contact with platelets induces podoplanin expression and invasion in human oral squamous cell carcinoma cells. Biomol. Ther. 30: 284-290.
9. Mun, S., et al. 2022. Transcriptome profile of membrane and extracellular matrix components in ligament-fibroblastic progenitors and cementoblasts differentiated from human periodontal ligament cells. Genes 13: 659.

PROTOCOLS

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