



BMA BIOMEDICALS

Monoclonal Antibody To Mouse Podoplanin
Aggrus, Glycoprotein 38 (Gp38), OTS-8, PA2.26 antigen, T1-alpha (T1A),
Transmembrane glycoprotein E11

Podoplanin is a prominent antigen of the kidney glomerular epithelial cell, the podocyte, where it seems to play a role in controlling glomerular permeability. Podoplanin is a mucin-type single-pass membrane protein, with its blocked N-terminus on the extracellular side. It contains 172 amino acids, is extensively O-glycosylated, and contains numerous sialic acid residues. Podoplanin is also a well-established lymphatic endothelial cell marker and as such a useful marker to distinguish lymphatic vessels immunohistochemically from blood vessels. High levels can be detected in lung and brain, lower levels in kidney, stomach, liver, spleen and esophagus, none in skin and small intestine. Some malignant tumor cells express podoplanin as well. The concomitant changes in cell morphology and motility suggest that podoplanin influences tumor progression. Podoplanin deficient mice die at birth because of respiratory failure. Podoplanin deficient mice also have defects in lymphatic formation with diminished lymphatic transport and congenital lymphedema.

TECHNICAL AND ANALYTICAL CHARACTERISTICS

Product Number:	T-2038 (Lot 02PO1103)
Clone:	8.1.1
Host species, isotype:	Syrian Hamster IgG
Quantity:	100µg
Format:	Affinity purified, lyophilized. Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) as a stabilizer and 0.1% (v/v) Kathon™ CG as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C from date of purchase. Stock solution or aliquots thereof: 1 year at -20°C. Avoid freeze-thaw cycles.
Applications:	Tested for immunohistochemistry (IHC); has been described to work in FACS. Approximate working dilution for IHC: Frozen sections: 0.125-0.25µg/ml (1:800-1:1600) Paraffin sections: 1µg/ml (1:100); pretreatment in microwave with citrate buffer for antigen retrieval is recommended Optimal dilutions should be determined by the end user. Suggested positive control: Mouse kidney.

Please see **www.bma.ch** for protocols and general information.

Immunogen:	Thymic stromal cell line 186
Protein database:	<u>mouse-Q62011</u>
Antigen, epitope:	The epitope has not been further characterized.
Antigen distribution:	Tissue Sections: The antigen is expressed on lymphatic endothelial cells, a subpopulation of thymic epithelial cells, mesothelium of different organs, and renal podocytes.
Specificity:	Mouse: Podoplanin. Other species: The antibody does not react with swine tissues.

Selected references

Vivien Schacht, Soheil S. Dadras, Louise A. Johnson, David G. Jackson, Young-Kwon Hong, and Michael Detmar: Up-Regulation of the Lymphatic Marker Podoplanin, a Mucin-Type Transmembrane Glycoprotein, in Human Squamous Cell Carcinomas and Germ Cell Tumors. *Am J Pathol.* 2005 March; 166(3): 913–921

Harold Kim, Vicky PKH Nguyen, Tatiana V Petrova, Maribelle Cruz, Kari Alitalo, and Daniel J Dumont: Embryonic vascular endothelial cells are malleable to reprogramming via Prox1 to a lymphatic gene signature. *BMC Dev Biol.* 2010; 10: 72

Karunamuni G, Yang K, Doughman YQ, Wikenheiser J, Bader D, Barnett J, Austin A, Parsons-Wingerter P, Watanabe M.: Expression of lymphatic markers during avian and mouse cardiogenesis. *Anat Rec (Hoboken).* 2010 Feb;293(2):259-70

Farr AG, Berry ML, Kim A, Nelson AJ, Welch MP, Aruffo A.: Characterization and cloning of a novel glycoprotein expressed by stromal cells in T-dependent areas of peripheral lymphoid tissues. *J Exp Med.* 1992 Nov 1;176(5):1477-82

Farr A, Nelson A, Hosier S.: Characterization of an antigenic determinant preferentially expressed by type I epithelial cells in the murine thymus. *J Histochem Cytochem.* 1992 May;40(5):651-64

For in vitro research only. This product contains Kathon™ CG as a preservative.