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## Product Information

### Anti-Podoplanin

produced in rabbit, affinity isolated antibody

Catalog Number **P5374**

### Product Description

Anti-Podoplanin is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 24-40 of human podoplanin with N-terminal added cysteine, conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Podoplanin recognizes human podoplanin. Applications include immunoblotting (~38 kDa) and immunohistochemistry. Detection of the podoplanin band by immunoblotting is specifically inhibited with the immunizing peptide.

Podoplanin is an integral membrane mucoprotein present on the surface of podocytes in kidney glomeruli and the parietal cells of the glomerular Bowman's capsule.<sup>1-3</sup> It is a single membrane-spanning protein composed of a heavily glycosylated extracellular domain and a short intracytoplasmic tail. Glycoproteins with similar sequences were described in rodent lung type I alveolar cells, mesothelial cells, osteoblasts and osteocytes, and thymic epithelial cells.<sup>3,5</sup> Podoplanin, also named E11 antigen, has been described to be present in normal, inflammatory and neoplastic lymphatic capillary endothelium.<sup>1,3-4,6,9</sup> It is not expressed *in vivo* in blood capillary endothelial cells, human hemangiomas, and lymph nodes high endothelial venules. Large lymphatic vessels having smooth muscle cells may lack podoplanin. Podoplanin is expressed selectively by dermal microvascular lymphatic endothelial cells but not by blood vascular endothelial cells. Expression of podoplanin is regulated by the lymphatic-specific homeobox gene Prox-1.<sup>7-9</sup> Podoplanin does not seem to be up regulated in tumor angiogenesis. It is detectable in human angiosarcomas, lymphangiomas, and in Kaposi's sarcomas. Podoplanin appears to play an important role in the maintenance of podocyte foot processes, and hence, glomerular permeability.<sup>1,2</sup> Experiments involving depletion of T1 $\alpha$ /podoplanin in mice indicate a critical regulatory role for it in formation of the lymphatic vasculature.<sup>7-9</sup>

### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Antibody concentration: ~1 mg/mL

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

### Product Profile

Immunoblotting: a working concentration of 5-10  $\mu$ g/mL is recommended using extracts of human HEK-293 or NRK cells and a chemiluminescent detection reagent.

Immunohistochemistry: a working concentration of 10-20  $\mu$ g/mL is recommended using biotin/ExtraAvidin<sup>®</sup>-Peroxidase staining of heat-retrieved formalin-fixed, paraffin-embedded human skin sections.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

### References

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