

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Podoplanin in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant mouse Podoplanin is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Podoplanin Glu21-Lys123 Accession # Q86YL7
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

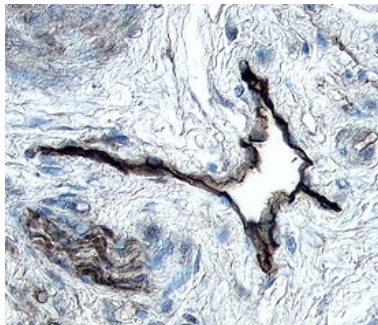
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the [Technical Information](#) section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human Podoplanin Fc Chimera (Catalog # 3670-PL)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	A431 human epithelial carcinoma cell line
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA

### Immunohistochemistry



**Podoplanin in Human Uterus.**  
Podoplanin was detected in immersion fixed paraffin-embedded sections of human uterus using 2 µg/mL Sheep Anti-Human Podoplanin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3670) overnight at 4 °C. Tissue was stained with the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Podoplanin, also known as glycoprotein 36 (gp36), PA2.26 antigen, T1-alpha (T1A), and aggrus, is a 36 kDa type I transmembrane sialoglycoprotein and member of the Podoplanin family (1-2). Podoplanin has three potential splice variants, the longest of which is represented by a 238 amino acid (aa) precursor (NP\_006465). It contains an undefined signal sequence, a 22 aa transmembrane segment (aa 207-228) and a short cytoplasmic tail (aa 229-238). The ECD contains abundant Ser/Thr residues that could serve as potential O-linked glycosylation sites. The cytoplasmic tail contains putative sites for protein kinase C phosphorylation (2-3). There are two potential alternate start sites at Met 77 (Swiss Prot #: Q86YL7) and Met 119 (EAW51692) that generate short forms. The 162 aa short form Podoplanin precursor shares 47% aa identity with mouse Podoplanin. Podoplanin is expressed on glomerular epithelial cells (podocytes), type I lung alveolar cells, lymphatic endothelial cells (4-5), and numerous tumors, including colorectal tumors (3), squamous cell carcinomas (4, 6), testicular seminoma (7), and brain tumors (8-10). One study shows high expression of Podoplanin mRNA in placenta, lung, skeletal muscle, and heart, and weaker levels in brain, kidney, and liver (1). Podoplanin is the ligand for C-type lectin-like receptor 2 (CLEC-2) (2). Their association is dependent on sialic acid on O-glycans of Podoplanin (2). Through its association with CLEC-2, Podoplanin induces platelet aggregation and tumor metastasis (2). Podoplanin is also necessary for lymphatic vessel formation, normal lung cell proliferation and alveolus formation at birth (2).

**References:**

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