



Anti-human Podoplanin

20201118DS



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	102-PA40AG
Size:	50 µg
Lot. No.:	According to product label
Country of origin:	Germany

Preparation: Produced from sera of rabbits pre-immunized with highly pure (>95%) recombinant human Podoplanin (Gly22-Thr128) derived from E. coli.

Target Background

Synonyms:	Glycoprotein 36, GP36, T1-alpha, PA2.26 antigen
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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. Podoplanin has three potential splice variants, the longest of which is represented by a 238 amino acid precursor. It contains an undefined signal sequence, a 22 aa transmembrane segment (aa 207-228) and a short cytoplasmic tail (aa 229-238). The cytoplasmic tail contains putative sites for protein kinase C phosphorylation. 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, and numerous tumors, including colorectal tumors, squamous cell carcinomas, testicular seminoma, and brain tumors. One study shows high expression of Podoplanin mRNA in placenta, lung, skeletal muscle, and heart, and weaker levels in brain, kidney, and liver. Podoplanin is the ligand for C-type lectin-like receptor 2 (CLEC-2). Their association is dependent on sialic acid on O-glycans of Podoplanin. Through its association with CLEC-2, Podoplanin induces platelet aggregation and tumor metastasis. Podoplanin is also necessary for lymphatic vessel formation, normal lung cell proliferation and alveolus formation at birth.

References

- Breiteneder-Geleff et al, Am J Pathol 154:385, 1999
- Kerjaschki et al, Nature Med 12:230, 2006
- Kriehuber et al, J Exp Med 194:797, 2001
- Zimmer et al, Biochem J 341:277, 1999
- Kato et al, Tumour Biol 26:195, 2005
- Katsue-Inoue et al, J Biol Chem 282:25993, 2007
- Kato et al, Oncogene 23:8552, 2004
- Schacht et al, Am J Pathol 166:913, 2005
- Mishima et al, Acta Neuropathol 111:483, 2006

Database References Antigen

Protein RefSeq:	NP_001006625.1
Uniprot ID:	Q86YL7
mRNA RefSeq:	NM_001006624.1

Product Specifications

Species reactivity	human
Clone/Ab feature	Rabbit IgG
Cross reactivity	ND
Host	rabbit
Clonality	polyclonal
Purification	Antigen affinity purified
Immunogen	Recombinant human Podoplanin (RT #S01-046)
Formulation	lyophilized
Buffer	PBS

Stability: The lyophilized antibody is stable for at least 2 years at -20°C. After sterile reconstitution the antibody is stable at 2-8°C for up to 6 months. Frozen aliquots are stable for at least 6 months when stored at -20°C. Addition of a carrier protein or 50% glycerol is recommended for frozen aliquots.

Reconstitution: Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1-1.0 mg/ml.



AVOID REPEATED FREEZE AND THAW CYCLES!

Applications

IF/IHC:	Use 10 µg/ml
Western Blot:	Use 1-5 µg/ml
Others	Immunoprecipitation (2-4 µg/ml)
ELISA:	Functional ELISA

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!



Anti-human Podoplanin

Handling/Applications

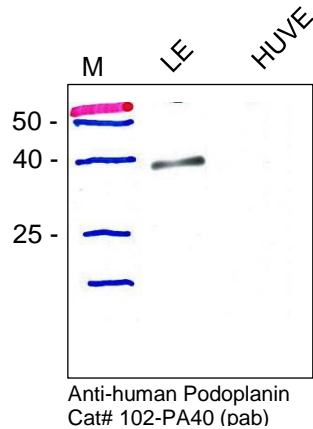


Fig. 1: Western blot analysis of Podoplanin expression in human lymphatic endothelial cells (LEC) and HUVECs. Total lysate of both cell types were subjected to SDS-PAGE and subsequent Western analysis with the polyclonal (#102-PA40) antibodies. The antibody recognizes a protein of about 36 kDa in total lysate from LECs but not from HUVEC.

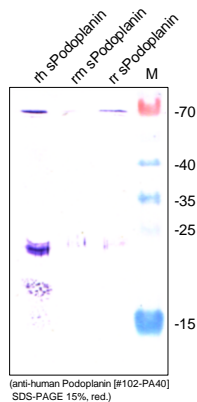


Figure 2: Western analysis of recombinant human [Cat# S01-046], mouse [Cat# S01-M46] and rat [Cat# S01-R46] soluble Podoplanin using a rabbit polyclonal anti-human Podoplanin antibody [Cat# 102-PA40AG]. There is a weak cross reactivity with mouse and rat Podoplanin visible.

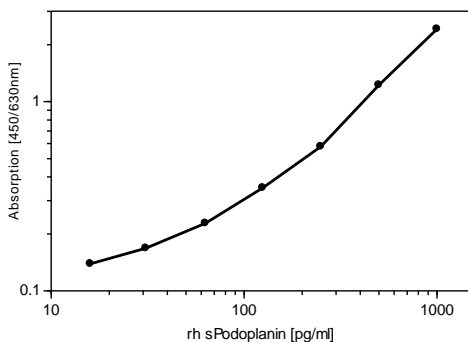


Figure 3: Functional ELISA with anti-human Podoplanin [Cat# 102-PA40AG]. Recombinant human soluble Podoplanin [Cat# S01-046] was coated with increasing amounts in a 96 well microtiter plate.