

Anti-Podoplanin/gp36 Antibody
Catalog # ABO10988**Specification**

Anti-Podoplanin/gp36 Antibody - Product Information

Application	WB
Primary Accession	Q86YL7
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Podoplanin(PDPN) detection. Tested with WB in Human.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Podoplanin/gp36 Antibody - Additional Information

Gene ID 10630

Other Names

Podoplanin, Aggrus, Glycoprotein 36, Gp36, PA2.26 antigen, T1-alpha, T1A, PDPN
{ECO:0000312|EMBL:AAH14668.2}

Calculated MW

16698 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization

Membrane ; Single-pass type I membrane protein . Cell projection, filopodium membrane ; Single-pass type I membrane protein . Cell projection, lamellipodium membrane ; Single-pass type I membrane protein . Cell projection, microvillus membrane ; Single-pass type I membrane protein . Cell projection, ruffle membrane ; Single-pass type I membrane protein . Localized to actin-rich microvilli and plasma membrane projections such as filopodia, lamellipodia and ruffles. .

Tissue Specificity

Highly expressed in placenta, lung, skeletal muscle and brain. Weakly expressed in brain, kidney and liver. In placenta, expressed on the apical plasma membrane of endothelium. In lung, expressed in alveolar epithelium. Up-regulated in colorectal tumors and expressed in 25% of early oral squamous cell carcinomas. .

Protein Name

Podoplanin

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human Podoplanin/gp36(227-238aa VVMRKMSGRYSP).

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the podoplanin family.

Anti-Podoplanin/gp36 Antibody - Protein Information

Name PDPN {ECO:0000312|EMBL:AAH14668.2}

Function

Mediates effects on cell migration and adhesion through its different partners. During development plays a role in blood and lymphatic vessels separation by binding CLEC1B, triggering CLEC1B activation in platelets and leading to platelet activation and/or aggregation (PubMed:14522983, PubMed:15231832, PubMed:17616532, PubMed:18215137, PubMed:17222411). Interaction with CD9, on the contrary, attenuates platelet aggregation induced by PDPN (PubMed:18541721). Through MSN or EZR interaction promotes epithelial- mesenchymal transition (EMT) leading to ERZ phosphorylation and triggering RHOA activation leading to cell migration increase and invasiveness (PubMed:17046996, PubMed:21376833). Interaction with CD44 promotes directional cell migration in epithelial and tumor cells (PubMed:20962267). In lymph nodes (LNs), controls fibroblastic reticular cells (FRCs) adhesion to the extracellular matrix (ECM) and contraction of the actomyosin by maintaining ERM proteins (EZR; MSN and RDX) and MYL9 activation through association with unknown transmembrane proteins. Engagement of CLEC1B by PDPN promotes FRCs relaxation by blocking lateral membrane interactions leading to reduction of ERM proteins (EZR; MSN and RDX) and MYL9 activation (By similarity). Through binding with LGALS8 may participate in connection of the lymphatic endothelium to the surrounding extracellular matrix (PubMed:19268462). In keratinocytes, induces changes in cell morphology showing an elongated shape, numerous membrane protrusions, major reorganization of the actin cytoskeleton, increased motility and decreased cell adhesion (PubMed:15515019). Controls invadopodia stability and maturation leading to efficient degradation of the extracellular matrix (ECM) in tumor cells through modulation of RHOC activity in order to activate ROCK1/ROCK2 and LIMK1/LIMK2 and inactivation of CFL1 (PubMed:25486435). Required for normal lung cell proliferation and alveolus formation at birth (By similarity). Does not function as a

water channel or as a regulator of aquaporin-type water channels (PubMed:9651190). Does not have any effect on folic acid or amino acid transport (By similarity).

Cellular Location

[Podoplanin]: Membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q62011}. Cell projection, lamellipodium membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q62011}. Cell projection, filopodium membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q62011}. Cell projection, microvillus membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q62011}. Cell projection, ruffle membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q62011}. Membrane raft. Apical cell membrane. Basolateral cell membrane. Cell projection, invadopodium. Note=Localized to actin-rich microvilli and plasma membrane projections such as filopodia, lamellipodia and ruffles (By similarity). Association to the lipid rafts is required for PDPN-induced epithelial to mesenchymal transition (EMT) (PubMed:21376833). Colocalizes with CD9 in tetraspanin microdomains (PubMed:18541721). Localized at invadopodium adhesion rings in tumor cell. Association to the lipid rafts is essential for PDPN recruitment to invadopodia and ECM degradation (PubMed:25486435) {ECO:0000250|UniProtKB:Q62011, ECO:0000269|PubMed:18541721, ECO:0000269|PubMed:21376833, ECO:0000269|PubMed:25486435}

Tissue Location

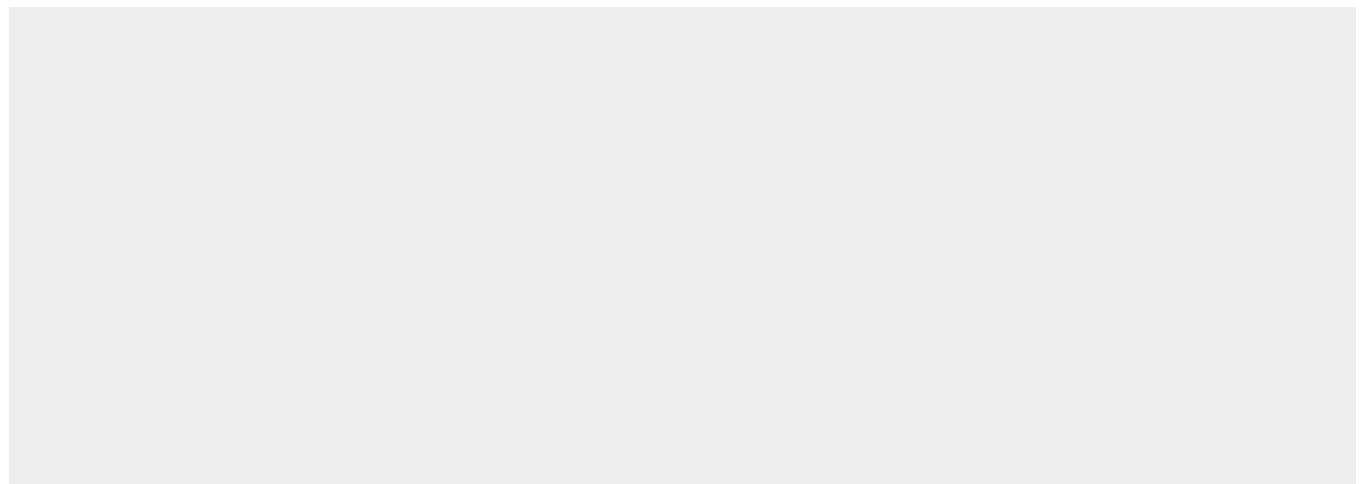
Highly expressed in placenta, lung, skeletal muscle and brain. Weakly expressed in brain, kidney and liver. In placenta, expressed on the apical plasma membrane of endothelium. In lung, expressed in alveolar epithelium. Up-regulated in colorectal tumors and expressed in 25% of early oral squamous cell carcinomas

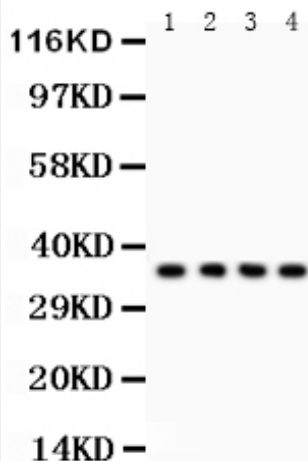
Anti-Podoplanin/gp36 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Podoplanin/gp36 Antibody - Images





Anti-Podoplanin/gp36 antibody, ABO10988, Western blotting All lanes: Anti PDPN (ABO10988) at 0.5ug/ml
Lane 1: A549 Whole Cell Lysate at 40ug
Lane 2: SMMC Whole Cell Lysate at 40ug
Lane 3: 293T Whole Cell Lysate at 40ug
Lane 4: HELA Whole Cell Lysate at 40ug
Predicted bind size: 36KD
Observed bind size: 36KD

Anti-Podoplanin/gp36 Antibody - Background

PDPN(Podoplanin), also called T1A, T1A2, GP36, OTS8 or AGGRUS, is a protein that in humans is encoded by the PDPN gene. This gene encodes a type-I integral membrane glycoprotein with diverse distribution in human tissues. The PDPN gene is mapped to chromosome 1 by the International radiation Hybrid mapping consortium. The physiological function of PDPN may be related to its mucin-type character. The specific function of this protein has not been determined but it has been proposed as a marker of lung injury. Immunohistochemical analysis of PDPN in placenta, kidney, lung, and nasal polyps showed expression at the apical plasma membrane of vascular endothelial cells and in alveolar epithelial cells. Overexpression of rat PDPN in human and rodent endothelial cells promoted formation of elongated cell extensions and significantly increased endothelial cell adhesion, migration, and tube formation. Inhibition of PDPN expression by small interfering RNAs decreased cell adhesion in cultured human dermal lymphatic endothelial cells.