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Anti-Podoplanin/gp36 Antibody

Catalog # ABO10733

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.

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
Application Details	Western blot, 0.1-0.5 □g/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. .
Source	Eukaryota
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(226-238aa VVVMRKMSGRYSP).
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.

Protein Information

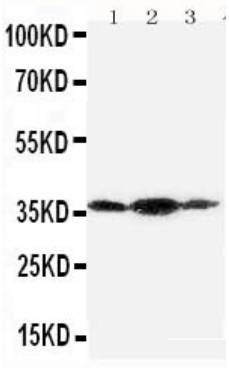
Name	PDPN {ECO:0000312|EMBL:AAH14668.2}
Function	Mediates effects on cell migration and adhesion through its different partners. During development plays a role in blood and lymphatic vessels separation by binding CLEC1B, triggering CLEC1B activation in platelets and leading to platelet activation and/or aggregation (PubMed:14522983, PubMed:15231832, PubMed:17222411, PubMed:17616532, PubMed:18215137). 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

Background

Podoplanin(PDPN) 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 International radiation Hybrid mapping consortium mapped the T1A gene to chromosome 1. It has got 162 amino acid protein which is a typical type I membrane glycoprotein, with an N-terminal signal sequence, a signal sequence cleavage site, a C-terminal hydrophobic stretch, and a short cytoplasmic tail. Northern blot analysis detected a 1.2-kb T1A2 transcript only in lung. It has been described as a differentiation antigen and influenza-virus receptor, and a marker of lung injury.

Images



Anti-Podoplanin/gp36 antibody, ABO10733, Western blottingAll lanes: Anti Podoplanin/gp36 (ABO10733) at 0.5ug/mlLane 1: SMMC Whole Cell Lysate at 40ugLane 2: 293T Whole Cell Lysate at 40ugLane 3: HELA Whole Cell Lysate at 40ugPredicted bind size: 36KDObserved bind size: 36KD

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.