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Anti-Podoplanin/gp36 Antibody

Catalog # ABO10989

Product Information

Application	WB
Primary Accession	Q64294
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Podoplanin(PDPN) detection. Tested with WB in Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	54320
Other Names	Podoplanin, E11 antigen epitope, Glycoprotein 38, Gp38, OTS-8, RTI140, T1-alpha, T1A, Type I cell 40 kDa protein, Pdpn, Gp38, Ots8
Calculated MW	17579
Application Details	Western blot, 0.1-0.5 □g/ml, Rat, Mouse
Subcellular Localization	Membrane ; Single-pass type I membrane protein . Cell projection, lamellipodium membrane ; Single-pass type I membrane protein . Cell projection, filopodium 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	In adult kidney, expressed on the urinary surface and foot processes of podocytes and in parietal epithelial cells of Bowman's capsule where it is localized to luminal surfaces. In lung, expressed exclusively on luminal surfaces of type I alveolar epithelial cells and pleural mesothelial cells. Not expressed in type II alveolar cells. In bone, expressed in osteocytes and osteoblasts. In spleen, liver, stomach and intestine, expressed in mesoepithelium. Also expressed in thymic epithelial cells, choroid plexus and leptomeninges. .
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 rat Podoplanin/gp36(155-166aa VVMRKISGRFSP), different from the related mouse sequence by one amino acid.
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.

Protein Information

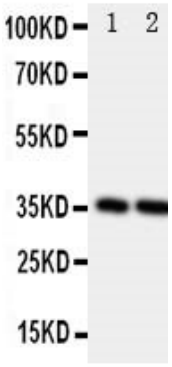
Name	Pdpn {ECO:0000312|RGD:61819}
Function	Mediates effects on cell migration and adhesion through its different partners. During development plays a role in blood and lymphatic vessels separation by binding CLEC1B, triggering CLEC1B activation in platelets and leading to platelet activation and/or aggregation. Interaction with CD9, on the contrary, attenuates platelet aggregation and pulmonary metastasis induced by PDPN. Mediates effects on cell migration and adhesion through its different partners. 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. Interaction with CD44 promotes directional cell migration in epithelial and tumor cells (By similarity). 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. 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. 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 (By similarity). 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 (By similarity). Does not have any effect on folic acid or amino acid transport (By similarity).
Cellular Location	Membrane; Single- pass type I membrane protein. Cell projection, lamellipodium membrane; Single-pass type I membrane protein. Cell projection, filopodium 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. Membrane raft {ECO:0000250|UniProtKB:Q86YL7}. Apical cell membrane {ECO:0000250|UniProtKB:Q86YL7}. Basolateral cell membrane {ECO:0000250|UniProtKB:Q86YL7}. Cell projection, invadopodium {ECO:0000250|UniProtKB:Q86YL7}. Note=Localized to actin-rich microvilli and plasma membrane projections such as filopodia, lamellipodia and ruffles

	(PubMed:9327748). Association to the lipid rafts is required for PDPN-induced epithelial to mesenchymal transition (EMT) Colocalizes with CD9 in tetraspanin microdomains. Localized at invadopodium adhesion rings in tumor cell. Association to the lipid rafts is essential for PDPN recruitment to invadopodia and ECM degradation (By similarity). {ECO:0000250|UniProtKB:Q86YL7, ECO:0000269|PubMed:9327748}
Tissue Location	In adult kidney, expressed on the urinary surface and foot processes of podocytes and in parietal epithelial cells of Bowman's capsule where it is localized to luminal surfaces. In lung, expressed exclusively on luminal surfaces of type I alveolar epithelial cells and pleural mesothelial cells. Not expressed in type II alveolar cells. In bone, expressed in osteocytes and osteoblasts. In spleen, liver, stomach and intestine, expressed in mesoepithelium. Also expressed in thymic epithelial cells, choroid plexus and leptomeninges

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.

Images



Anti-Podoplanin/gp36 antibody, ABO10989, Western blottingAll lanes: Anti (ABO10989) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Rat Liver Tissue Lysate at 50ugPredicted bind size: 17KDObserved bind size: 35KD