



PDPN Recombinant Monoclonal Antibody

Product Code	CSB-RA017739A0HU
Abbreviation	Podoplanin
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q86YL7
Immunogen	A synthesized peptide derived from human PDPN
Species Reactivity	Human
Tested Applications	ELISA
Relevance	<p>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 to 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).</p>
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.



Purification Method	Affinity-chromatography
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Isotype	Rabbit IgG
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Clonality	Monoclonal
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Alias	Podoplanin, Aggrus, PDPN
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Immunogen Species	Homo sapiens (Human)
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Research Area	Cardiovascular
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Gene Names	PDPN
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Clone No.	4E6
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Description	
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The recombinant monoclonal PDPN antibody is made in vitro using protein technology and DNA recombinant technology. The PDPN antibody was obtained through immunization of an animal with a synthesized peptide derived from human PDPN protein, isolation of B cells, and selection of positive B cells and single clone identification. Sequencing the PDPN antibody and synthesizing the gene. The resulting gene is inserted into a plasmid vector, which is transfected into mammalian cells for expression. The product is the recombinant monoclonal PDPN antibody. It underwent purification using affinity chromatography and is suitable for use in the ELISA to detect the human PDPN protein.

PDPN is a cell-surface mucin-like glycoprotein with pleiotropic functions including regulation of organ development, cell motility, tumorigenesis, and metastasis. Overexpression of PDPN is detected in several tumors and is involved in their malignancy and metastasis. PDPN is widely used as a marker for lymphatic endothelial cells and fibroblastic reticular cells of lymphoid organs and for lymphatics in the skin and tumor microenvironment.