Podoplanin (PDPN) Rat Recombinant Protein

PRODUCT OVERVIEW

Product Name	Podoplanin (Pdpn), Recombinant Protein
Full Product Name	Recombinant Rat Podoplanin (Pdpn), partial
Product Gene Name	Pdpn recombinant protein
Product Synonym Gene Name	Pdpn
Sequence	GAIGALED DLVTPGPGDD MVNPGLEDRI ETTDTTGELD KSTAKAPLVP TQPPIEELPT SGTSDHDHKE HESTTTVKAV TSHSTDKKTT HPNRDNAGGE TQTTDKKDGL AVVTL
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	17,579 Da
Sequence Positions	23-135
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q64294
Species	Rat
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Pdpn recombinant protein	This gene encodes a type-I integral membrane glycoprotein with diverse distribution in human tissues. The physiological function of this protein may be related to its mucin-type character. The homologous protein in other species has been described as a differentiation antigen and influenza-virus receptor. The specific function of this protein has not been determined but it has been proposed as a marker of lung injury. Alternatively spliced transcript variants encoding different isoforms have been identified.
Other Notes	Small volumes of Pdpn recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Pdpn purchase	MBS1334995 is a recombinant protein targeting Pdpn. Also known as Recombinant Rat Podoplanin (Pdpn), partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Pdpn. It may not necessarily be applicable to this product.

NCBI GI #	9506743
NCBI GeneID	54320
NCBI Accession #	NP_062231.1

UniProt Primary Accession #	Q64294
UniProt Secondary Accession #	O08731; O55210
UniProt Related Accession #	Q64294
GenBank Nucleotide #	NM_019358.1
NCBI Official Full Name	podoplanin
NCBI Official Synonym Full Names	podoplanin
NCBI Official Symbol	Pdpn
NCBI Official Synonym Symbols	E11; Gp38; OTS-8; RTI40; T1-alpha
UniProt Protein Name	Podoplanin
UniProt Synonym Protein Names	E11 antigen epitope
Protein Family	Podoplanin
UniProt Gene Name	Pdpn
UniProt Synonym Gene Names	T1A
NCBI Protein Information	podoplanin
NCBI Summary for Pdpn	membrane glycoprotein that may function in lung development [RGD, Feb 2006]
UniProt Comments for Pdpn	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 (). 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 (). Through binding with LGALS8 may participate to 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 (). Required for normal lung cell proliferation and alveolus formation at birth (). Does not function as a water channel or as a regulator of aquaporin-type water channels (). Does not have any effect on folic acid or amino acid transport ().
Research Articles on Pdpn	**1.** Four genes are expressed significantly higher in basal bone than in alveolar bone: SOST, E-11, DMP-1, and MEPE. Three of the proteins (SOST, MEPE, and DMP-1) are associated with mature osteocytes, indicating that basal bone has more mature osteocyte phenotypes because the immature osteocyte converts to a mature osteocyte as a result of bone mineralization.
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