PDGFRb Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	PDGFRb, Polyclonal Antibody
Full Product Name	PDGFRb (Ab-771) Antibody
Product Gene Name	anti-PDGFRb antibody
Product Synonym Gene Name	PDGFRb
Product Synonym Names	Beta-type platelet-derived growth factor receptor; CD140 antigen-like family member B; CD140B; JTK12; PDGF-R-beta
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purity/Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Specificity	The antibody detects endogenous levels of total PDGFRB protein.
Preparation and Storage	Store at 4 degree C short term. Aliquot and store at -20 degree C long term. Avoid freeze/thaw cycles.
Molecular Weight	123,968 Da
Chromosome Location	Chromosome: 5; NC_000005.9 (149493402..149535422, complement). Location: 5q33.1
OMIM	131440
3D Structure	ModBase 3D Structure for P09619
Immunogen	Synthesized peptide derived from Internal of human PDGFRB.
Product Categories/Family for anti-PDGFRb antibody	Primary Antibody
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-PDGFRb antibody	Western Blot (WB)
Application Notes for anti-PDGFRb antibody	WB: 1:500~1:3000

Related Product Information for anti-PDGFRb antibody	Tyrosine-protein kinase that acts as cell-surface receptor for homodimeric PDGFB and PDGFD and for heterodimers formed by PDGFA and PDGFB, and plays an essential role in the regulation of embryonic development, cell proliferation, survival, differentiation, chemotaxis and migration. Plays an essential role in blood vessel development by promoting proliferation, migration and recruitment of pericytes and smooth muscle cells to endothelial cells. Plays a role in the migration of vascular smooth muscle cells and the formation of neointima at vascular injury sites. Required for normal development of the cardiovascular system. Required for normal recruitment of pericytes (mesangial cells) in the kidney glomerulus, and for normal formation of a branched network of capillaries in kidney glomeruli. Promotes rearrangement of the actin cytoskeleton and the formation of membrane ruffles. Binding of its cognate ligands - homodimeric PDGFB, heterodimers formed by PDGFA and PDGFB or homodimeric PDGFD -leads to the activation of several signaling cascades; the response depends on the nature of the bound ligand and is modulated by the formation of heterodimers between PDGFRA and PDGFRB. Phosphorylates PLCG1, PIK3R1, PTPN11, RASA1/GAP, CBL, SHC1 and NCK1. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate, mobilization of cytosolic Ca2+ and the activation of protein kinase C. Phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, leads to the activation of the AKT1 signaling pathway. Phosphorylation of SHC1, or of the C-terminus of PTPN11, creates a binding site for GRB2, resulting in the activation of HRAS, RAF1 and down-stream MAP kinases, including MAPK1/ERK2 and/or MAPK3/ERK1. Promotes phosphorylation and activation of SRC family kinases. Promotes phosphorylation of PDCD6IP/ALIX and STAM. Receptor signaling is down-regulated by protein phosphatases that dephosphorylate the receptor and its down-stream effectors, and by rapid internalization of the activated receptor.
Product References and Citations for anti-PDGFRb antibody	Gronwald R.G.K., Proc. Natl. Acad. Sci. U.S.A. 85:3435-3439 (1988).Schmutz J., Nature 431:268-274 (2004)
Other Notes	Small volumes of anti-PDGFRb antibody 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 PDGFRb purchase	MBS8586838 is an antibody targeting PDGFRb. Also known as PDGFRb (Ab-771) Antibody. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

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

NCBI GI #	4505683
NCBI GeneID	5159
NCBI Accession #	NP_002600.1
UniProt Primary Accession #	P09619
UniProt Secondary Accession #	Q8N5L4
UniProt Related Accession #	P09619
GenBank Nucleotide #	NM_002609.3
NCBI Official Full Name	platelet-derived growth factor receptor beta
NCBI Official Synonym Full Names	platelet-derived growth factor receptor, beta polypeptide
NCBI Official Symbol	PDGFRB
NCBI Official Synonym Symbols	IBGC4; JTK12; PDGFR; CD140B; PDGFR1; PDGFR-1
UniProt Protein Name	Platelet-derived growth factor receptor beta
UniProt Synonym Protein Names	Beta platelet-derived growth factor receptor; Beta-type platelet-derived growth factor receptor; CD140 antigen-like family member B; Platelet-derived growth factor receptor 1
Protein Family	Platelet-derived growth factor receptor
UniProt Gene Name	PDGFRB
UniProt Synonym Gene Names	PDGFR; PDGFR1; PDGF-R-beta; PDGFR-beta; PDGFR-1

UniProt Entry Name	PGFRB_HUMAN
NCBI Protein Information	platelet-derived growth factor receptor beta; PDGFR-beta; PDGF-R-beta; CD140 antigen-like family member B; platelet-derived growth factor receptor 1; beta-type platelet-derived growth factor receptor
NCBI Summary for PDGFRb	This gene encodes a cell surface tyrosine kinase receptor for members of the platelet-derived growth factor family. These growth factors are mitogens for cells of mesenchymal origin. The identity of the growth factor bound to a receptor monomer determines whether the functional receptor is a homodimer or a heterodimer, composed of both platelet-derived growth factor receptor alpha and beta polypeptides. This gene is flanked on chromosome 5 by the genes for granulocyte-macrophage colony-stimulating factor and macrophage-colony stimulating factor receptor; all three genes may be implicated in the 5-q syndrome. A translocation between chromosomes 5 and 12, that fuses this gene to that of the translocation, ETV6, leukemia gene, results in chronic myeloproliferative disorder with eosinophilia. [provided by RefSeq, Jul 2008]
UniProt Comments for PDGFRb	PDGFRB: a receptor tyrosine kinase of the PDGFR family that binds members of the platelet-derived growth factor family. The identity of the growth factor bound determines whether the functional receptor is a homodimer or a heterodimer, composed of both PDGFR-alpha and -beta. Ligand binding induces receptor dimerization and autophosphorylation, thereby recruiting SH2-containing proteins including Grb2, Src, GAP, PTPN11, PI3 kinase, PLC-gamma and Nck. Regulates cell growth, actin reorganization, migration and differentiation. A variety of myeloproliferative disorders and cancers result from translocations that activate PDGFRbeta by fusion with proteins such as TEL/ETV6, H2, CEV14/TRP11, rabaptin 5, and huntington interacting protein 1. Gleevec treatment of TEL fusions has been successful. Overexpressed in metastatic medulloblastoma. Inhibitors: Gleevec, Sutent. Protein type: Kinase, protein; Protein kinase, TK; EC 2.7.10.1; Protein kinase, tyrosine (receptor); Membrane protein, integral; Oncoprotein; TK group; PDGFR family Chromosomal Location of Human Ortholog: 5q33.1 Cellular Component: lysosomal lumen; focal adhesion; cell surface; membrane; apical plasma membrane; cytoplasm; cytoplasmic membrane-bound vesicle; integral to membrane; plasma membrane; nucleus; intrinsic to plasma membrane Molecular Function: protein binding; platelet activating factor receptor activity; protein-tyrosine kinase activity; platelet-derived growth factor binding; platelet-derived growth factor beta-receptor activity; platelet-derived growth factor receptor binding; phosphoinositide 3-kinase binding; platelet-derived growth factor receptor activity; protein kinase binding; ATP binding; receptor binding Biological Process: positive regulation of phosphoprotein phosphatase activity; peptidyl-tyrosine phosphorylation; wound healing; nerve growth factor receptor signaling pathway; response to toxin; protein amino acid autophosphorylation; positive regulation of smooth muscle cell proliferation; positive regulation of collagen biosynthetic process; platelet-derived growth factor receptor signaling pathway; cardiac myofibril assembly; signal transduction; positive regulation of smooth muscle cell migration; response to estradiol stimulus; smooth muscle development; positive regulation of MAP kinase activity; positive regulation of cell proliferation; tissue homeostasis; phosphatidylinositol metabolic process; regulation of peptidyl-tyrosine phosphorylation; inner ear development; epidermal growth factor receptor signaling pathway; cell migration; fibroblast growth factor receptor signaling pathway; response to retinoic acid; phosphoinositide-mediated signaling; positive regulation of mitosis; in utero embryonic development; positive regulation of chemotaxis; adrenal gland development; positive regulation of phosphoinositide 3-kinase activity; positive regulation of phosphoinositide 3-kinase cascade; glycosaminoglycan biosynthetic process; G-protein coupled receptor protein signaling pathway; response to hyperoxia; response to hydrogen peroxide; skeletal morphogenesis; regulation of actin cytoskeleton organization and biogenesis; innate immune response; negative regulation of apoptosis; positive regulation of cell migration Disease: Myeloproliferative Disorder, Chronic, With Eosinophilia; Myofibromatosis, Infantile, 1; Basal Ganglia Calcification, Idiopathic, 1; Basal Ganglia Calcification, Idiopathic, 4
Research Articles on PDGFRb	**1.** Hepatitis B viral (HBV) particles and HBV c and x proteins promote stellate cell proliferation and fibrogenesis in vitro and the PDGF-B/PDGFR-beta signaling pathway is important in this process.
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