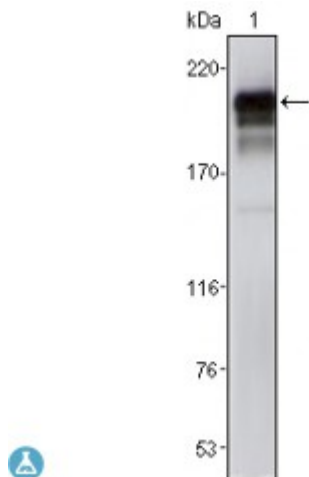


Anti-PDGFR-beta antibody



Description	Mouse monoclonal to PDGFR-beta.
Model	STJ98314
Host	Mouse
Reactivity	Human, Mouse
Applications	ELISA, WB
Immunogen	Purified recombinant fragment of human PDGFR-beta expressed in E. Coli.
Gene ID	5159
Gene Symbol	PDGFRB
Dilution range	WB 1:500-1:2000ELISA 1:10000
Specificity	PDGFR-beta Monoclonal Antibody detects endogenous levels of PDGFR-beta protein.
Purification	Affinity purification
Clone ID	1A2
Note	For Research Use Only (RUO).
Protein Name	Platelet-derived growth factor receptor beta PDGF-R-beta PDGFR-beta Beta platelet-derived growth factor receptor Beta-type platelet-derived growth factor receptor CD140 antigen-like family member B Platelet-derived grow
Clonality	Monoclonal
Conjugation	Unconjugated
Isotype	IgG1

Formulation	Ascitic fluid containing 0.03% sodium azide.
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:8804OMIM:131440
Alternative Names	Platelet-derived growth factor receptor beta PDGF-R-beta PDGFR-beta Beta platelet-derived growth factor receptor Beta-type platelet-derived growth factor receptor CD140 antigen-like family member B Platelet-derived grow
Function	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 Ca(2+) 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.
Cellular Localization	Cell membrane. Single-pass type I membrane protein. Cytoplasmic vesicle. Lysosome lumen. After ligand binding, the autophosphorylated receptor is ubiquitinated and internalized, leading to its degradation.
Post-translational Modifications	Autophosphorylated on tyrosine residues upon ligand binding. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Phosphorylation at Tyr-579, and to a lesser degree, at Tyr-581, is important for interaction with SRC family kinases. Phosphorylation at Tyr-740 and Tyr-751 is important for interaction with PIK3R1. Phosphorylation at Tyr-751 is important for interaction with NCK1. Phosphorylation at Tyr-771 and Tyr-857 is important for interaction with RASA1/GAP. Phosphorylation at Tyr-857 is important for efficient phosphorylation of PLCG1 and PTPN11, resulting in increased phosphorylation of AKT1, MAPK1/ERK2 and/or MAPK3/ERK1, PDCD6IP/ALIX and STAM, and in increased cell proliferation. Phosphorylation at Tyr-1009 is important for interaction with PTPN11.

Phosphorylation at Tyr-1009 and Tyr-1021 is important for interaction with PLCG1. Phosphorylation at Tyr-1021 is important for interaction with CBL; PLCG1 and CBL compete for the same binding site. Dephosphorylated by PTPRJ at Tyr-751, Tyr-857, Tyr-1009 and Tyr-1021. Dephosphorylated by PTPN2 at Tyr-579 and Tyr-1021. N-glycosylated. Ubiquitinated. After autophosphorylation, the receptor is polyubiquitinated, leading to its degradation.

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