

## ARG22882 anti-CD140b / PDGFRB antibody [PR7212]

Package: 50 µg  
Store at: -20°C

### Summary

Product Description	Mouse Monoclonal antibody [PR7212] recognizes CD140b / PDGFRB Mouse anti Human CD140b antibody, clone PR7212 recognizes the extracellular domain of the human PDGF receptor beta subunit. This was confirmed in binding studies using several different cell lines and by its ability to immunoprecipitate PDGF receptor beta complexed with 125I-PDGF-BB. Mouse anti Human CD140b antibody, clone PR7212 does not recognize PDGF receptor alpha. PDGF receptor beta is a member of the class III receptor tyrosine kinase family that also includes M-CSF receptor, SCF receptor and Flt-3. Binding of PDGF-BB induces receptor homodimerization or heterodimerization with PDGF receptor alpha.
Tested Reactivity	Hu, Bb, Mk
Species Does Not React With	Ms, Rat
Tested Application	FACS, ICC/IF, IHC-Fr, IHC-P, IP, WB
Host	Mouse
Clonality	Monoclonal
Clone	PR7212
Isotype	IgG1
Target Name	CD140b / PDGFRB
Species	Human
Immunogen	Human skin fibroblast cell membrane extracts.
Conjugation	Un-conjugated
Alternate Names	PDGF-R-beta; IBGC4; CD antigen CD140b; Platelet-derived growth factor receptor beta; CD140B; PDGFR; PDGFR-1; Beta platelet-derived growth factor receptor; PDGFR1; Platelet-derived growth factor receptor 1; PDGFR-beta; CD140 antigen-like family member B; IMF1; EC 2.7.10.1; JTK12; Beta-type platelet-derived growth factor receptor

### Application Instructions

Application table	Application	Dilution
	FACS	25 µg/ml
	ICC/IF	Assay-dependent
	IHC-Fr	Assay-dependent
	IHC-P	25 µg/ml
	IP	Assay-dependent
	WB	Assay-dependent
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

## Properties

Form	Liquid
Purification	Purification with Protein G.
Buffer	PBS and 0.09% Sodium azide
Preservative	0.09% Sodium azide
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

## Bioinformation

Gene Symbol	PDGFRB
Gene Full Name	platelet-derived growth factor receptor, beta polypeptide
Background	<p>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]</p>
Function	<p>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 PDGCD6IP/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. [UniProt]</p>
Calculated Mw	124 kDa
PTM	<p>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, PDGCD6IP/ALIX and STAM, and in increased cell proliferation. Phosphorylation at Tyr-1009 is important for interaction with PTPN11. Phosphorylation at Tyr-1009 and</p>

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.