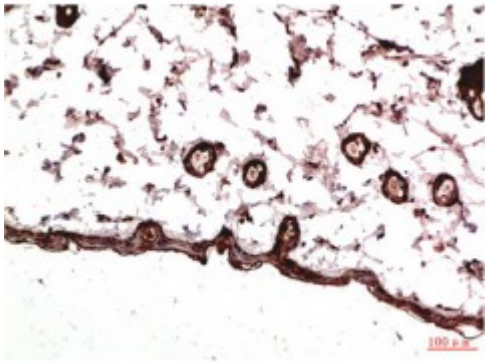
Anti-PDGF alpha antibody



Description	PDGFRalpha is a protein encoded by the PDGFRA gene which is approximately 122,6 kDa. PDGFRalpha is localised to the cell membrane. It is involved in RET signalling, apoptotic pathways in synovial fibroblasts and the GPCR pathway. It is a tyrosine-protein kinase that acts as a cell-surface receptor for PDGFA, PDGFB and PDGFC and plays an essential role in the regulation of embryonic development, cell proliferation, survival and chemotaxis. It either promotes or inhibits cell proliferation and cell migration and plays an important role in the differentiation of bone marrow-derived mesenchymal stem cells. PDGFRalpha is widely expressed in the body including platelets, brain and colon. Mutations in the PDGFRA gene may result in gastrointestinal stromal tumor. STJ97793 was developed from clone 7A3 and was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen. This primary antibody detects endogenous levels of PDGFRalpha.

Model	STJ97793
Host	Mouse
Reactivity	Human, Mouse, Rat
Applications	IHC
Immunogen	synthetic peptide derived from PDGFRalpha
Immunogen Region	1010-1090 aa
Gene ID	5156
Gene Symbol	PDGFRA
Dilution range	IHC 1:100-200

Specificity	PDGFRalpha Mouse Monoclonal Antibody (7A3) detects endogenous levels of PDGFRA
Tissue Specificity	Detected in platelets (at protein level). Widely expressed. Detected in brain, fibroblasts, smooth muscle, heart, and embryo. Expressed in primary and metastatic colon tumors and in normal colon tissue.
Purification	The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.
Clone ID	7A3
Note	For Research Use Only (RUO).
Protein Name	Platelet-derived growth factor receptor alpha PDGF-R-alpha PDGFR-alpha Alpha platelet-derived growth factor receptor Alpha-type platelet-derived growth factor receptor CD140 antigen-like family member A CD140a antigen <
Clonality	Monoclonal
Conjugation	Unconjugated
Isotype	IgG1
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:8803OMIM:173490
Alternative Names	Platelet-derived growth factor receptor alpha PDGF-R-alpha PDGFR-alpha Alpha platelet-derived growth factor receptor Alpha-type platelet-derived growth factor receptor CD140 antigen-like family member A CD140a antigen <
Function	Tyrosine-protein kinase that acts as a cell-surface receptor for PDGFA, PDGFB and PDGFC and plays an essential role in the regulation of embryonic development, cell proliferation, survival and chemotaxis. Depending on the context, promotes or inhibits cell proliferation and cell migration. Plays an important role in the differentiation of bone marrow-derived mesenchymal stem cells. Required for normal skeleton development and cephalic closure during embryonic development. Required for normal development of the mucosa lining the gastrointestinal tract, and for recruitment of mesenchymal cells and normal development of intestinal villi. Plays a role in cell migration and chemotaxis in wound healing. Plays a role in platelet activation, secretion of agonists from platelet granules, and in thrombin-induced platelet aggregation. Binding of its cognate ligands - homodimeric PDGFA, homodimeric PDGFB, heterodimers formed by PDGFA and PDGFB or homodimeric PDGFC -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 PIK3R1, PLCG1, and PTPN11. 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. Phosphorylates PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, and thereby mediates

	activation of the AKT1 signaling pathway. Mediates activation of HRAS and of the MAP kinases MAPK1/ERK2 and/or MAPK3/ERK1. Promotes activation of STAT family members STAT1, STAT3 and STAT5A and/or STAT5B. 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. The activated receptor is rapidly internalized and degraded.
Post-translational Modifications	N-glycosylated.; Ubiquitinated, leading to its degradation. 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-731 and Tyr-742 is important for interaction with PIK3R1. Phosphorylation at Tyr-720 and Tyr-754 is important for interaction with PTPN11. Phosphorylation at Tyr-762 is important for interaction with CRK. Phosphorylation at Tyr-572 and Tyr-574 is important for interaction with SRC and SRC family members. Phosphorylation at Tyr-988 and Tyr-1018 is important for interaction with PLCG1.