

Active Recombinant Human PDGFRA protein, His/Avi-tagged, Biotinylated

Cat. No. PDGFRA-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human PDGFRA(Gln24-Glu524) protein, fused to His/Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Gln24-Glu524
Description	PDGFR alpha (platelet-derived growth factor receptor alpha) is a type I transmembrane glycoprotein in the class III subfamily of receptor tyrosine kinases (RTK) (1-4). PDGF R alpha and PDGF R beta can form homo- or hetero-dimeric receptors when engaged by dimers of the PDGF family of growth factors, which include disulfide-linked homodimers of PDGF-A, B, C or D, or the heterodimer PDGF-AB that is mainly found in human platelets. While multiple in vitro ligand-receptor combinations have been identified, in vivo evidence indicates that PDGF R alpha primarily binds PDGF-AA and PDGF-CC, while PDGF R beta primarily binds PDGF-BB and probably PDGF-DD. Like all class III RTKs, the extracellular domain (ECD) of human PDGF R alpha (aa 24-524) contains five immunoglobulin-like domains, while the intracellular region contains a split tyrosine kinase domain (aa 593-954) (1-4). Within the ECD, human PDGF R alpha shares 85%, 83%, 95%, 93%, and 88% aa sequence identity with mouse, rat, equine, canine and bovine PDGF R alpha respectively. PDGF R alpha autophosphorylates upon

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dimerization, activating signaling cascades in PI 3-kinase Ras-MAP kinase, and PLC-gamma pathways (1, 2). Signaling is down-regulated by SHP-2 phosphatase activity and by receptor endocytosis and lysosomal degradation. PDGF R alpha is expressed at low levels in most mesenchymal cells, but is strongly expressed in oligodendrocyte, lung, skin and intestinal progenitor cells and induced by inflammation or growth in culture (1-4). During development, mesenchymal cells expressing PDGF R alpha respond to local gradients of epithelially produced PDGF-AA or PDGF-CC during formation of the cranial and cardiac neural crest, retina, gonads, lung alveoli, intestinal villi, skin, hair follicles, skeleton, teeth, palate, and interstitial kidney mesenchyme (1, 5). Deletion of PDGF R alpha in mice severely impairs mesenchymal derivatives in both embryo and extraembryonic tissues, and high or low PDGF R alpha signaling in humans may result in spina bifida or cleft palate-type malformations. Postnatally, PDGF R alpha is implicated in gliomas and fibrotic disorders of lung, heart and skin (scleroderma) (6-8).

Predicted N Terminal	Gln24
Form	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Human PDGFRA Antibody is immobilized at 1 µg/mL (100 µL/well), it binds to Biotinylated Recombinant Human PDGFRA His-tag Avi-tag with an ED50 of 0.1-1 µg/mL. Measured by its binding ability in a functional ELISA. When Recombinant Human PDGF-AA is used at 2 µg/mL (100 µL/well), it binds to Biotinylated Recombinant Human PDGFRA His-tag Avi-tag with a linear range 0.8-100 µg/mL.
Molecular Mass	82-108 kDa, under reducing conditions

Endotoxin	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Applications	Binding Activity
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 3 months, -20 to -70 °C under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 500 µg/mL in PBS.
Conjugation	Biotin

GENE INFORMATION

Gene Name	PDGFRA platelet-derived growth factor receptor, alpha polypeptide [Homo sapiens]
Official Symbol	PDGFRA
Synonyms	PDGFRA; platelet-derived growth factor receptor, alpha polypeptide; platelet-derived growth factor receptor alpha; CD140a; PDGFR2; PDGFR-alpha; PDGF-R-alpha; CD140a antigen; PDGFRA/BCR fusion; CD140 antigen-like family member A; platelet-derived growth factor receptor 2; alpha-type platelet-derived growth factor receptor; rearranged-in-hypereosinophilia-platelet derived growth factor receptor alpha fusion protein; CD140A; PDGFR-2; RHEPDGFRA; MGC74795;
Gene ID	5156

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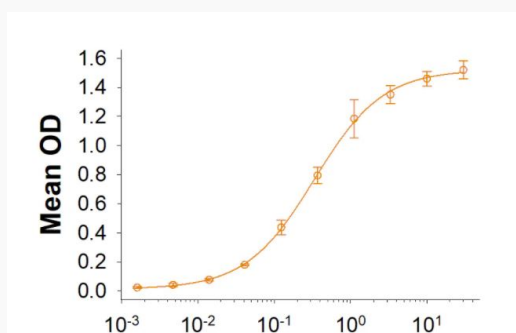
mRNA Refseq [NM_006206](#)

Protein Refseq [NP_006197](#)

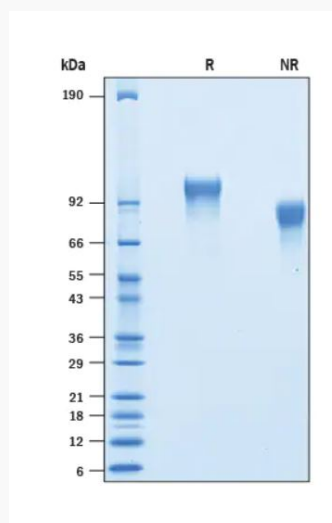
MIM [173490](#)

UniProt ID [P16234](#)

Binding Activity



SDS-PAGE



2 µg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-

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reducing (NR) conditions and visualized by Coomassie® Blue staining.

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