

## PDGF R alpha Protein, Human (HEK293, His)

<b>Cat. No.:</b>	HY-P72495
<b>Synonyms:</b>	Platelet-derived growth factor receptor alpha; PDGF-R-alpha; PDGFR-2; CD140a; PDGFRA
<b>Species:</b>	Human
<b>Source:</b>	HEK293
<b>Accession:</b>	P16234 (Q24-E524)
<b>Gene ID:</b>	5156
<b>Molecular Weight:</b>	Approximately 93 kDa

### PROPERTIES

#### AA Sequence

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QLSLPSILPN   ENEKVVQLNS   SFSLRCFGES   EVSWQYPMSE
EESSDVEIRN   EENNSGLFVT   VLEVSSASAA   HTGLYTCYYN
HTQTEENELE   GRHIYIYVPD   PDVAFVPLGM   TDYLVIVEDD
DSAIIPCRTT   DPETPVTLHN   SEGVVPASYD   SRQGFNGTFT
VGPYICEATV   KGKKFQTIPF   NVYALKATSE   LDLEMEALKT
VYKSGETIVV   TCAVFNNEVV   DLQWTYPGEV   KGKGITMLEE
IKVPSIKLVY   TLTVPEATVK   DSGDYECAAR   QATREVKEMK
KVTISVHEKG   FIEIKPTFSQ   LEAVNLHEVK   HFVVEVRAYP
PPRISWLKNN   LTLIENLTEI   TTDVEKIQEI   RYRSKCLKLIR
AKEEDSGHYT   IVAQNEDAVK   SYTFELLTQV   PSSILDLVDD
HHGSTGGQTV   RCTAEGTPLP   DIEWMICKDI   KKCNNETSWT
ILANNVSNII   TEIHSRDRST   VEGRVTFAKV   EETIAVRCLA
KNLLGAENRE   LKLVAPTLRS   E
  
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#### Appearance

Lyophilized powder.

#### Formulation

Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.

#### Endotoxin Level

<1 EU/µg, determined by LAL method.

#### Reconstitution

It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH<sub>2</sub>O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).

#### Storage & Stability

Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

#### Shipping

Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

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## Background

PDGF R alpha, a tyrosine-protein kinase, assumes a pivotal role as a cell-surface receptor for PDGFA, PDGFB, and PDGFC, exerting significant influence over embryonic development, cell proliferation, survival, and chemotaxis. Its impact on cell behavior varies, as it can either promote or inhibit cell proliferation and migration based on contextual cues. The receptor's indispensable role extends to the differentiation of bone marrow-derived mesenchymal stem cells and is critical for normal skeletal development, embryonic cephalic closure, and the formation of the gastrointestinal mucosa. Moreover, PDGF R alpha contributes to the recruitment of mesenchymal cells and the development of intestinal villi. It plays a crucial role in wound healing by influencing cell migration and chemotaxis. PDGF R alpha's engagement with its ligands activates diverse signaling cascades, modulated by ligand specificity and influenced by heterodimer formation between PDGFRA and PDGFRB. The receptor phosphorylates key targets such as PIK3R1, PLCG1, and PTPN11, triggering downstream events like the AKT1 signaling pathway activation and induction of MAP kinase and STAT family members. The dynamic regulation of PDGF R alpha signaling involves the interplay of protein phosphatases and rapid internalization of the activated receptor to finely tune its cellular responses.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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