

PDGF R alpha Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P78506
Synonyms:	PDGFRA; CD140A; PDGFR2; RHEPDGFRA; MGC74795; PDGFR-2
Species:	Human
Source:	HEK293
Accession:	P16234 (Q24-E524)
Gene ID:	5156
Molecular Weight:	70-83 kDa

PROPERTIES

Biological Activity	Immobilized Human PDGF R alpha, His Tag at 0.5µg/ml (100µl/Well) on the plate. Dose response curve for Anti-PDGF R alpha Antibody, hFc Tag with the EC ₅₀ of 11.0ng/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
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 ₂ O.
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

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.

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

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