

Recombinant Human PGFRB Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50783

Size: 10ug, 100ug

Protein Name: Platelet-derived growth factor receptor beta (PDGF-R-beta) (PDGFR-beta) (EC 2.7.10.1) (Beta platelet-derived growth factor receptor) (Beta-type platelet-derived growth factor receptor) (CD140 antigen-like family member B) (Platelet-derived growth factor receptor 1) (PDGFR-1) (CD antigen CD140b)

Synonym: PDGFRB, PDGFR, PDGFR1

UniProt ID: P09619

UniProt Link: www.uniprot.org/uniprotkb/P09619/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1106 AA

Molecular Weight: 124 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MRLPGAMPALALKGELLLLLSLLLLLLEPQISQGLVVTTPGPELVNVSSTFVLTCSGSAPVWVERMSQ
EPPQEMAKAQDGTSSVLTLTNLTGLDTGEYFCTHNSRGLETDERKRLYIFVPDPTVGFLPNDAEE
LFIFLTEITEITIPCRVTDPLVLTLEHKKGDVALPVPYDHQRGFSGIFEDRSYICKTTIGDREVDSDAY
YVYRLQVSSINVSNAVQTVVRQGENITLMCIVIGNEVVNFETYPRKESGRLVEPVTDFFLDMPYHI
RSILHIPSAAELEDSTYTCNVTESVNDHQDEKAINITVVESGYVRLLEGEVGTQLQFAELHRSRTLQVFE
AYPPPTVLWFKDNRTLGDSSAGEIALSTRNVSETRYVSELTLRVKVAEAGHYTMRAFHEDAQVQLS
FQLQINVPVRVLELSESHPDSEGTQVRCRGRGMPQPNIIWSACRDLKRCPRELPPTLLGNSSEES
QLETNVTYWEEEQEFVSTLRLQHVDRLSVRCTLRNAVGQDTQEVIVPHSLPFFKVVVISAILALV
VLTIIILILIMLWQKKPRYERWKVIESVSSDGHEYIYVDPMQLPYDSTWELPRDQLVLGRTLGSF
GQVVEATAHGLSHSQATMKVAVKMLKSTARSSKQALMSELKIMSHLGPLNVLNLLGACTKGGPI
YIITEYCRYGDLVDYLHRNKHTFLQHHSDKRRPPSAELYSNALPVGLPLPSHVSLTGESDGGYMDMS
KDESVDYVPMMLDMKGDVKYADIESSNYMAPYDNYVPSAPERTCRATLINESPVLSYMDLVGFSYQV
ANGMEFLASKNCVHRDLAARNVLICEGKLVKICDFGLARDIMRDSNYISKGSTFLPLKWMAPESIFNS
LYTTLSVDVWSFGILLWEIFTLGGTPYPELPMNEQFYNAIKRGYRMAQPAHASDEIYEIMQKCWEEKF
EIRPPFSQLVLLERLLGEGYKKKYQQVDEEFLRSDHPAILRSQARLPGFHGLRSPDLTSSVLYTAVQ



PNEGDNDYIIPLPDPKPEVADEGPLEGSPSLASSTLNEVNTSSTISCDSPLEPQDEPEPEPQLELQVE
PEPELEQLPDSGCPAPRAEAEDSFL

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Platelet-derived growth factor receptor beta (PDGF-R-beta) (PDGFR-beta) (EC 2.7.10.1) (Beta platelet-derived growth factor receptor) (Beta-type platelet-derived growth factor receptor) (CD140 antigen-like family member B) (Platelet-derived growth factor receptor 1) (PDGFR-1) (CD antigen CD140b) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Tyrosine-protein kinase that acts as a 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 PDCD6IP/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.

Subcellular Localization: Cell membrane; Single-pass type I membrane protein. Cytoplasmic vesicle. Lysosome lumen. Note=After ligand binding, the autophosphorylated receptor is ubiquitinated and internalized, leading to its degradation.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer- composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.