

# Human PDGFRα / CD140a Protein (His Tag)

Catalog Number: 10556-H08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CD140A; PDGFR-2; PDGFR2; RHEPDGFR

### Protein Construction:

A DNA sequence encoding the extracellular domain (Met 1-Glu 524) of human PDGFRα (NP\_006197.1) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE. > 90 % as determined by SEC-HPLC.

### Bio Activity:

**Measured by its ability to bind human PDGFC-Fc in functional ELISA.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Gln 24

### Molecular Mass:

The recombinant human PDGFRα consists of 512 amino acids and predicts a molecular mass of 57.7 kDa. By SDS-PAGE under reducing conditions, the apparent molecular mass of rhPDGFRα is approximately 90-100 kDa due to the glycosylation.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

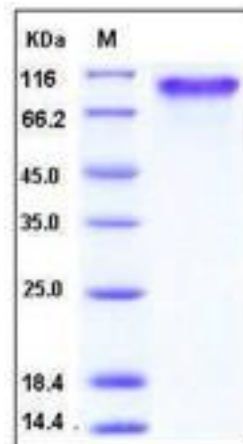
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

PDGFRα, also known as CD140a, together with the structurally homolog protein PDGFRβ (CD140b), are cell surface receptors for members of the platelet-derived growth factor family. They are members of the class III subfamily of receptor tyrosine kinase (RTKs) with the similar structure characteristics of five immunoglobulin-like domains in their extracellular region and a split kinase domain in their intracellular region. PDGFRα is expressed in oligodendrocyte progenitor cells and mesothelial cell, and binds all three ligand isoforms PDGF-AA, PDGF-BB and PDGF-AB with high affinity, whereas PDGFRβ does not bind PDGF-AA. PDGFRα plays an essential role in regulating proliferation, chemotaxis and migration of mesangial cells. Recent studies have indicated that PDGFRα acts as a critical mediator of signaling in testis organogenesis and Leydig cell differentiation, and in addition, particularly important for kidney development. Additionally, PDGFRα is involved in tumor angiogenesis and maintenance of the tumor microenvironment and has been implicated in development and metastasis of Hepatocellular carcinoma (HCC). PDGFRα may represent a potential therapeutic target in thymic tumours. PDGFRα gene amplification rather than gene mutation may be the underlying genetic mechanism driving PDGFRα overexpression in a portion of gliomas.

## References

- 1.Oseini AM, *et al.* (2009) PDGFRα: a new therapeutic target in the treatment of hepatocellular carcinoma? *Expert Opin Ther Targets.* 13(4): 443-54.
- 2.Meister M, *et al.* (2009) Expression and mutational status of PDGFR in thymic tumours. *Anticancer Res.* 29(10): 4057-61.
- 3.Martinho O, *et al.* (2009) Expression, mutation and copy number analysis of platelet-derived growth factor receptor A (PDGFRα) and its ligand PDGFA in gliomas. *Br J Cancer.* 101(6): 973-82.

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