

# Human PDGFRa / CD140a Protein (His & GST Tag)

Catalog Number: 10556-H20B1



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CD140A; PDGFR-2; PDGFR2; RHEPDGFR

### Protein Construction:

A DNA sequence encoding the human PDGFRa (P16234-1) (Gln551-Leu1089) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

**Source:** Human

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio Activity:

**The specific activity was determined to be 8 nmol/min/mg using MBP as substrate.**

### 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:** Met

### Molecular Mass:

The recombinant human PDGFRa /GST chimera consists of 776 amino acids and has a calculated molecular mass of 89.2 kDa. The recombinant protein migrates as an approximately 92 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly, 3mM DTT

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:

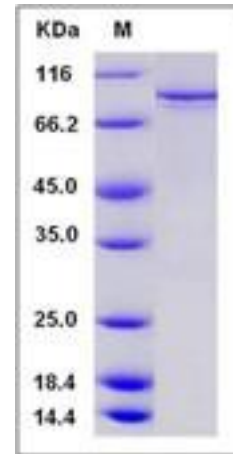
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

PDGFRa, also known as CD140a, together with the structurally homolog protein PDGFRb (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. PDGFRa 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 PDGFRb does not bind PDGF-AA. PDGFRa plays an essential role in regulating proliferation, chemotaxis and migration of mesangial cells. Recent studies have indicated that PDGFRa acts as a critical mediator of signaling in testis organogenesis and Leydig cell differentiation, and in addition, particularly important for kidney development. Additionally, PDGFRa is involved in tumor angiogenesis and maintenance of the tumor microenvironment and has been implicated in development and metastasis of Hepatocellular carcinoma (HCC). PDGFRa may represent a potential therapeutic target in thymic tumours. PDGFRa gene amplification rather than gene mutation may be the underlying genetic mechanism driving PDGFRa overexpression in a portion of gliomas.

## References

- 1.Oseini AM, *et al.* (2009) PDGFRalpha: 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 (PDGFRa) and its ligand PDGFA in gliomas. *Br J Cancer.* 101(6): 973-82.

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