PRODUCT INFORMATION

PDGFRβ/CD140b Extracellular Domain (human, recombinant)

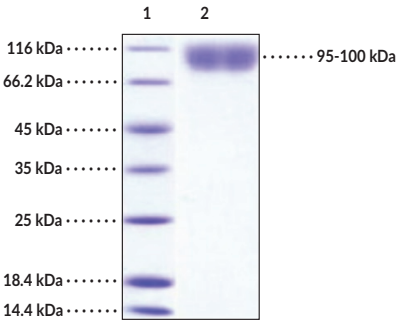
Item No. 33986

Overview and Properties

Synonyms:	CD140 Antigen-like Family Member B, PDGFR-1, Platelet-derived Growth Factor Receptor 1, Platelet-derived Growth Factor Receptor β
Source:	Active recombinant human C-terminal His-tagged PDGFRβ expressed in HEK293 cells
Amino Acids:	33-531
Uniprot No.:	P09619
Molecular Weight:	57.6 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4, with 5% Trehalose, 5% Mannitol, and 0.01% Tween-80
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Bioactivity:	See figures for details

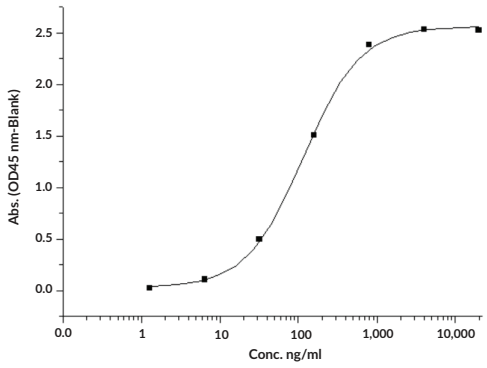
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: PDGFRβ/CD140b Extracellular Domain

SDS-PAGE Analysis of PDGFRβ/CD140b Extracellular Domain. This protein has a calculated molecular weight of 57.6 kDa. It has an apparent molecular weight of approximately 95-100 kDa by SDS-PAGE under reducing conditions due to glycosylation.



Measured by its binding ability in a functional ELISA. Immobilized PDGFRβ/CD140b Extracellular Domain at 10 µg/ml (100 µl/well) can bind cynomolgus monkey PDGFB. The EC_{50} value of cynomolgus PDGFβ is 3-8 ng/ml.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 03/31/2026

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

PDGFRβ, also known as CD140b, is a type I transmembrane glycoprotein and receptor tyrosine kinase encoded by *PDGFRB* in humans.[1] It is composed of five extracellular immunoglobulin-like (Ig-like) domains, a transmembrane domain, and an intracellular kinase domain. PDGFRβ is ubiquitously expressed and functions as a homodimer or a heterodimer with PDGFRα. Binding of the growth factor PDGF-BB or PDGF-DD to PDGFRβ promotes homodimerization, induces receptor autophosphorylation and a conformational change that facilitates access to the intracellular kinase domain, and intracellular signaling through multiple pathways, including ERK/MAPK, PI3K/AKT/mTOR, PLC/PKC, and JAK/STAT.[1-3] Knockdown of *Pdgfrb* decreases the number of vascular smooth muscle cells, induces CNS-specific reduction in pericytes, and is postnatally lethal in mice. *De novo* mutations in *PDGFRB* have been found in patients with novel overgrowth syndrome.[4] Cayman's PDGFRβ/CD140b Extracellular Domain (human, recombinant) protein can be used for binding assays. This protein consists of 510 amino acids, has a calculated molecular weight of 57.6 kDa, and a predicted N-terminus of Leu33 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 95 to 100 kDa due to glycosylation.

References

1. Heldin, C.-H. and Lennartsson, J. Structural and functional properties of platelet-derived growth factor and stem cell factor receptors. *Cold Spring Harb. Perspect. Biol.* **5(8)**, a009100 (2013).
2. Kelly, J.D., Haldeman, B.A., Grant, F.J., *et al.* Platelet-derived growth factor (PDGF) stimulates PDGF receptor subunit dimerization and intersubunit *trans*-phosphorylation. *J. Biol. Chem.* **266(14)**, 8987-8992 (1991).
3. Olson, L.E. and Soriano, P. PDGFRβ signaling regulates mural cell plasticity and inhibits fat development. *Dev. Cell* **20(6)**, 815-826 (2011).
4. Takenouchi, T., Yamaguchi, Y., Tanikawa, A., *et al.* Novel overgrowth syndrome phenotype due to recurrent de novo *PDGFRB* mutation. *J. Pediatr.* **166(2)**, 483-486 (2015).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM