

PRODUCT INFORMATION



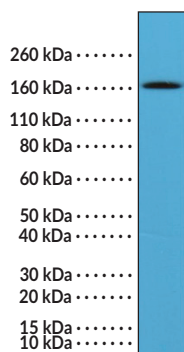
PDGFR β /CD140b (C-Term) Rabbit Monoclonal Antibody (Clone RM303)

Item No. 32248

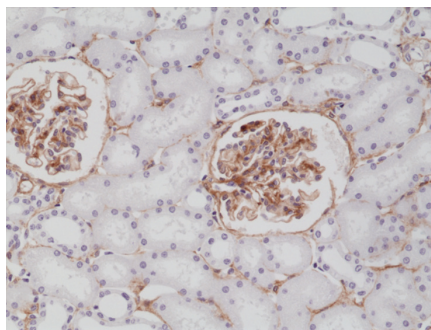
Overview and Properties

Contents:	This vial contains 100 μ l of protein A-affinity purified monoclonal antibody.
Synonyms:	CD140 Antigen-like Family Member B, PDGFR-1, Platelet-derived Growth Factor Receptor 1, Platelet-derived Growth Factor Receptor β
Immunogen:	Peptide from the C-terminal region of human PDGFR β
Cross Reactivity:	(+) PDGFR β
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	\geq 1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM303
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:500-1:1,000 for IHC and 1:250-1:500 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of human brain tissue lysates using PDGFR β /CD140b (C-Term) Rabbit Monoclonal Antibody (Clone RM303) at a dilution of 1:100.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human kidney tissue using PDGFR β /CD140b (C-Term) Rabbit Monoclonal Antibody (Clone RM303) at a dilution of 1:200.

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.

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Description

PDGFR β , 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. PDGFR β is ubiquitously expressed and functions as a homodimer or a heterodimer with PDGFR α . Binding of the growth factor PDGF-BB or PDGF-DD to PDGFR β 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 PDGFR β /CD140b (C-Term) Rabbit Monoclonal Antibody (Clone RM303) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

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. PDGFR β 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).

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