abcam

ab314096

Anti-PDGFR beta antibody [BLR081G] - BSA free

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human PDGFRB aa 1 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P09619
Clone number	BLR081G

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

ICC

Tested

Species	Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information PDGFRB

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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	Up to 12 months
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PDGFR beta also known as PDGFR-b or PDGFRB is a cell surface tyrosine kinase receptor with a molecular mass of about 180 kDa. It binds the PDGF (platelet-derived growth factor) family of ligands. PDGFR beta is commonly found in various tissues including blood vessels and connective tissues and is highly expressed in cells like pericytes and fibroblasts. The receptor plays a critical role in cell signaling mechanisms involving proliferation chemotaxis and survival.
Biological function summary	The receptor plays an essential role in the regulation of cell growth and development. PDGFR beta undergoes dimerization and autophosphorylation upon ligand binding initiating a series of downstream signaling cascades. This receptor is often part of a complex with other receptor proteins promoting interactions necessary for signal propagation. Its main biological functions include mediating cellular responses to environmental signals that contribute to tissue repair and angiogenesis.

Pathways	PDGFR beta is an important player within the PI3K-Akt and MAPK signaling pathways. It works alongside proteins such as PI3K and Ras to regulate cellular responses related to growth and survival. These pathways facilitate cross-talk with other cellular processes influencing various cellular outcomes. This receptor's activity regulates critical physiological functions by providing signals that maintain cellular homeostasis under various physiological conditions.
Associated diseases and disorders	PDGFR beta has significant implications in the progression of cancer and fibrotic diseases. Its overexpression or mutation can lead to anomalous signaling that contributes to tumorigenesis particularly in connective tissue tumors known as sarcomas. Additionally PDGFR beta's role in promoting fibroblast activity makes it relevant in fibrotic diseases such as pulmonary fibrosis. Abnormal activation of PDGFR beta can interact with related proteins like VEGF receptors enhancing pathogenic responses and contributing to disease severity.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

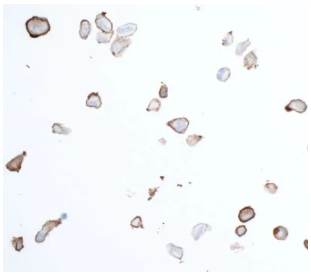
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

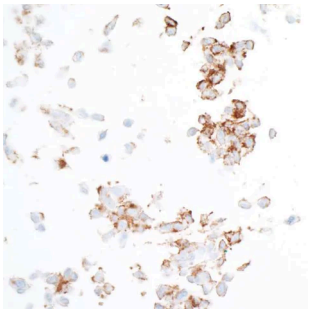
Full details and terms and conditions can be found here:
Terms & Conditions.

5 product images



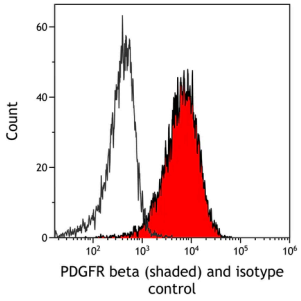
Immunocytochemistry - Anti-PDGFR beta antibody [BLR081G] - BSA free (ab314096)

Detection of human PDGFR beta in FFPE A-172 cells by ICC. Antibody: Rabbit anti-PDGFR beta recombinant monoclonal antibody. Secondary: HRP-conjugated goat anti-rabbit IgG. Substrate: DAB.



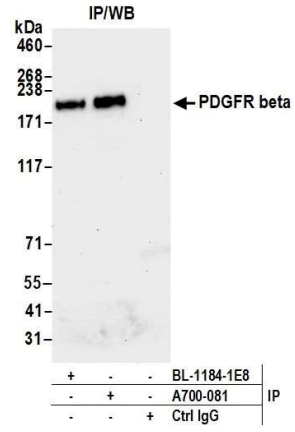
Immunocytochemistry - Anti-PDGFR beta antibody [BLR081G] - BSA free (ab314096)

Detection of human PDGFR beta in FFPE OVCAR-8 cells by ICC. Antibody: Rabbit anti-PDGFR beta recombinant monoclonal antibody. Secondary: HRP-conjugated goat anti-rabbit IgG. Substrate: DAB.



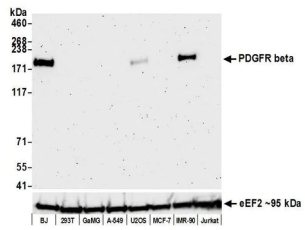
Flow Cytometry - Anti-PDGFR beta antibody [BLR081G] - BSA free (ab314096)

Detection of human PDGFR beta (shaded) in OVCAR8 cells by flow cytometry. Antibody: Rabbit anti-PDGFR beta recombinant monoclonal antibody [BLR081G] (A700-081) or isotype control (unshaded). Secondary: DyLight® 650-conjugated goat anti-rabbit IgG.



Immunoprecipitation - Anti-PDGFR beta antibody [BLR081G] - BSA free (ab314096)

Samples: Whole cell lysate (1.0 mg per IP reaction; 20% of IP loaded) from BJ cells prepared using NETN lysis buffer. Antibodies: Rabbit anti-PDGFR beta recombinant monoclonal antibody [BLR081G] (A700-081) used for IP at 6 µl per reaction. PDGFR beta was also immunoprecipitated by rabbit anti-PDGFR beta recombinant monoclonal antibody [BL-1184-1E8]. For blotting immunoprecipitated PDGFR beta, A700-081 was used at 1:1000. Chemiluminescence with an exposure time of 10 seconds.



Western blot - Anti-PDGFR beta antibody [BLR081G] - BSA free (ab314096)

Samples: Whole cell lysate (50 µg) from BJ, HEK293T, GaMG, A-549, U2OS, MCF-7, IMR-90, and Jurkat cells prepared using NETN lysis buffer. Antibody:Rabbit anti-PDGFR beta recombinant monoclonal antibody [BLR081G] (A700-081 lot 1) used at 1:1000. Secondary:HRP-conjugated goat anti-rabbit IgG (A120-101P). Chemiluminescence with an exposure time of 3 minutes. Lower Panel: Rabbit anti-eEF2 (A301-688A).
All lanes:
Western blot - Anti-PDGFR beta antibody [BLR081G] - BSA free (ab314096) at 1/1000 dilution

Lane 1:

BJ Whole cell lysate at 50 µg

Lane 2:
HEK293T Whole cell lysate at 50 µg

Lane 3:
GaMG Whole cell lysate at 50 µg

Lane 4:
A-549 Whole cell lysate at 50 µg

Lane 5:
U2OS Whole cell lysate at 50 µg

Lane 6:
MCF-7 Whole cell lysate at 50 µg

Lane 7:
IMR-90 Whole cell lysate at 50 µg

Lane 8:
Jurkat Whole cell lysate at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.