Technical Data Sheet

Purified Mouse anti-PDGFRβ (CD140b) (pY771)

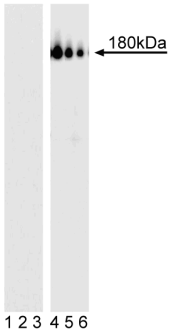
Product Information

Material Number:	**558361**
Alternate Name:	CD140b (pY771)
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	J23-618
Immunogen:	Phosphorylated Human PDGFRβ Peptide
Isotype:	Mouse (BALB/c) IgG2a, κ
Reactivity:	QC Testing: Mouse Tested in Development: Human
Target MW:	180 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

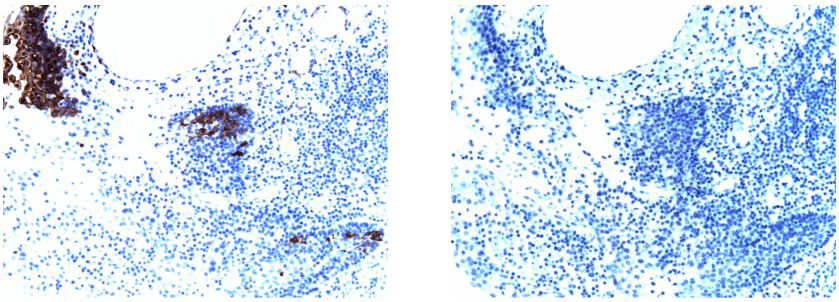
Description

Platelet-derived growth factor (PDGF) is a potent mitogen for cells of mesenchymal origin and exerts its effects by binding to the PDGF receptor (PDGFR), a transmembrane protein tyrosine kinase. PDGFR is composed of PDGFRα (CD140a) and/or PDGFRβ (CD140b) polypeptides. Both PDGF and PDGFR consist of subunits that form homo- or heterodimers with varying specificities: PDGF-AA binds only to αα PDGFR, PDGF-AB binds to both αα and αβ PDGFR, and PDGF-BB binds to all three PDGFRs. Ligand binding induces dimerization and activation of the receptor. Upon activation, CD140b is phosphorylated at multiple tyrosine sites and, in turn, an intracellular phosphorylation cascade is initiated. PDGFR localizes primarily to membrane invaginations termed caveolae, compartments that are enriched in several of its downstream effectors, including phosphatidylinositol 3'-kinase, Src, and phospholipase C-γ.

The J23-618 monoclonal antibody recognizes the phosphorylated tyrosine 771 (pY771) in the kinase insert domain of CD140b. pY771 interacts with GTPase-activating protein, a negative regulator of Ras, and weakly with Shc, which indirectly promotes the activation of Ras.



Western blot analysis of PDGFRβ (pY771). *Lysates from control (left panel) and PDGF-treated (right panel) NIH/3T3 mouse embryonic fibroblasts were probed with purified mouse anti-PDGFRβ (CD140b) (pY771) at concentrations of 0.016 (lanes 1 and 4), 0.008 (lanes 2 and 5), and 0.004 µg/ml (lanes 3 and 6). PDGFRβ (pY771) is identified as a band of 180 kDa in the treated cells.*



PDGFRβ (pY771) staining on tonsil. *Fresh human tonsil was incubated in 5 mM Pervanadate solution for 2 hours, then fixed in formalin and processed. Following antigen retrieval with BD Retrievagen A buffer (Cat. no. 550524), the sections were either left untreated (left panel) or treated with a phosphatase to eliminate all phosphorylation (right panel). The tissue sections were stained with purified Mouse anti-PDGFRβ (CD140b) (pY771) with Hematoxylin counterstaining. Original magnification: 20X.*

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

Western blot	Routinely Tested
Immunohistochemistry-formalin (antigen retrieval required)	Tested During Development

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
550524	Retrievagen A (pH 6.0)	1000 ml	(none)
551011	Anti-Mouse Ig HRP Detection Kit	200 tests	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Claesson-Welsh L. Platelet-derived growth factor receptor signals. *J Biol Chem.* 1994; 269(51):32023-32026. (Biology)

Ekman S, Kallin A, Engstrom U, Heldin CH, Ronnstrand L. SHP-2 is involved in heterdimer specific loss of phosphorylation of Tyr771 in the PDGF beta-receptor. *Oncogene.* 2002; 21(12):1870-1875. (Biology)

Liu J, Oh P, Horner T, Rogers RA, Schnitzer JE. Organized endothelial cell surface signal transduction in caveolae distinct from glycosylphosphatidylinositol-anchored protein microdomains. *J Biol Chem.* 1997; 272(11):7211-7222. (Biology)

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