Technical Data Sheet

PE Mouse anti-PDGFRβ (CD140b) (pY1009)

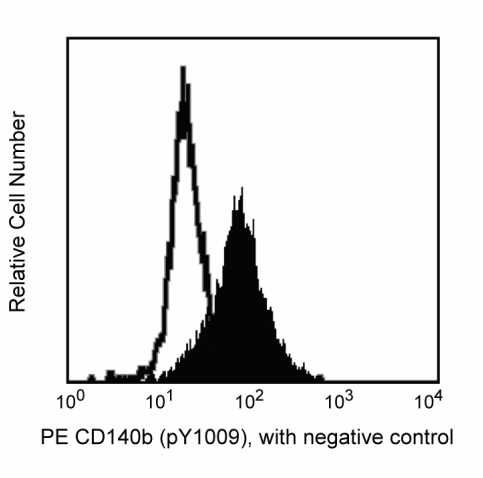
Product Information

Material Number:	**558322**
Alternate Name:	CD140b (pY1009)
Size:	50 tests
Vol. per Test:	20 µl
Clone:	J25-602
Immunogen:	Phosphorylated Human PDGFRβ (pY1009) Peptide
Isotype:	Mouse IgG2b, κ
Reactivity:	QC Testing: Mouse Confirmed by immunohistochemistry using purified, unconjugated antibody: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤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 (PLC-γ).

The J25-602 monoclonal antibody recognizes the phosphorylated tyrosine 1009 (pY1009) in the C-terminal noncatalytic region of CD140b, which interacts primarily with protein tyrosine phosphatase 1D and possibly with PLC-γ. The orthologous phosphorylation site in mouse PDGFRβ is Y1008.



Analysis of CD140b (pY1009) in activated mouse embryonic fibroblasts. *NIH/3T3 cells (ATCC CRL-1658) were serum starved overnight and either stimulated with Platelet-Derived Growth Factor-BB (Cat. No. 354051) at 37˚C for 2 minutes (filled histogram) or unstimulated (open istogram). The cells were fixed with BD Phosflow™ Fix Buffer I (Cat. No. 557870) at 37˚C for 10 minutes, permeabilized in BD Phosflow™ Perm Buffer III (Cat. No. 558050) on ice for at least 30 minutes, and stained with PE anti-CD140b (pY1009). Flow cytometry was performed on a BD FACSCalibur™ flow cytometry system.*

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

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

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
557870	Fix Buffer I	250 ml	(none)
558050	Perm Buffer III	125 ml	(none)
554656	Stain Buffer (FBS)	500 ml	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
4. 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.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

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