Technical Data Sheet

PE Mouse anti-PDGFRβ (CD140b) (pY857)

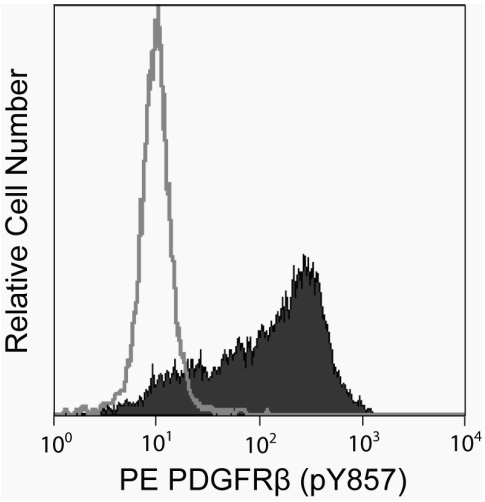
Product Information

Material Number:	**558429**
Size:	50 tests
Vol. per Test:	20 µl
Clone:	J24-618
Immunogen:	Phosphorylated Human PDGFRβ Peptide
Isotype:	Mouse IgG1, κ
Reactivity:	Confirmed by flow cytometry: 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.

The J24-618 monoclonal antibody recognizes the phosphorylated tyrosine 857 (pY857) in the tyrosine kinase domain 2 of CD140b, which is required for maximal receptor kinase activity. The orthologous phosphorylation site in mouse PDGFRβ is Y856.



Analysis of PDGFRβ (CD140b) (pY857) in mouse embryonic fibroblasts. *Serum-starved NIH/3T3 cells were either stimulated with PDGF-BB (Cat. No. 354051, shaded histogram) or unstimulated (open histogram). The cells were fixed (BD™ Phosflow Fix Buffer I, Cat. No. 557870) for 10 minutes at 37°C, then permeabilized (BD™ Phosflow Perm Buffer III, Cat. No. 558050) on ice for at least 30 minutes, and then stained with PE Mouse anti-PDGFRβ (CD140b) (pY857). Flow cytometry was performed on a BD™ FACSCalibur flow cytometry system.*

Preparation and Storage

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 by gel filtration chromatography.

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

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

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Suggested Companion Products

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

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 X 10e6 cells in a 100-µl experimental sample (a test).
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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Baxter RM, Secrist JP, Vaillancourt RR, Kazlauskas A. Full activation of the platelet-derived growth factor β-receptor kinase involves multiple events. *J Biol Chem.* 1998; 273(27):17050-17055.(Biology)

Chiarugi P, Cirri P, Taddei ML, Giannoni E, et al. Insight into the role of low molecular weight phosphotyrosin phosphatase (LMW-PTP) on platelet-derived growth factor receptor (PDGF-r) signaling. *J Biol Chem.* 2002; 277(40):37331-37338.(Biology)

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)