

## Technical Data Sheet

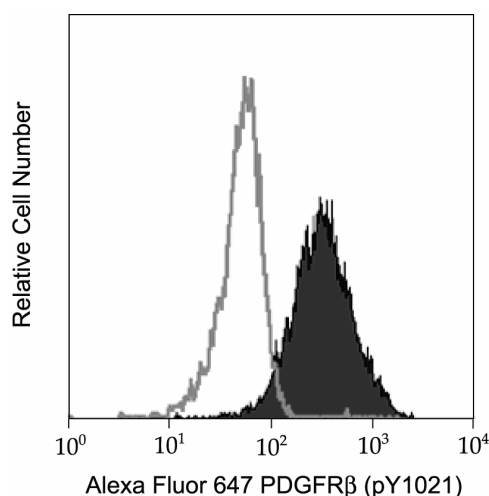
**Alexa Fluor® 647 Mouse anti-PDGFRβ (CD140b) (pY1021)****Product Information**

<b>Material Number:</b>	558418
<b>Alternate Name:</b>	PDGF Receptor β
<b>Size:</b>	50 tests
<b>Vol. per Test:</b>	20 µl
<b>Clone:</b>	J105-412
<b>Immunogen:</b>	Phosphorylated Human PDGFRβ (pY1021)
<b>Isotype:</b>	Mouse (BALB/c) IgG1, κ
<b>Reactivity:</b>	QC Testing: Mouse Confirmed by immunohistochemistry using purified, unconjugated antibody: Human
<b>Storage Buffer:</b>	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 J105-412 monoclonal antibody recognizes the phosphorylated tyrosine 1021 (pY1021) in the C-terminal noncatalytic region of CD140b, which interacts primarily with PLC-γ. The orthologous phosphorylation site in mouse PDGFRβ is Y1020.



**Analysis of PDGFRβ (CD140b) (pY1021) 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 Alexa Fluor® 647 anti-PDGFRβ (CD140b) (pY1021). 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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was 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  $1 \times 10^6$  cells in a 100- $\mu$ l experimental sample (a test).
2. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
3. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
4. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
5. 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.
6. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
7. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
8. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.

## 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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