

Technical Data Sheet

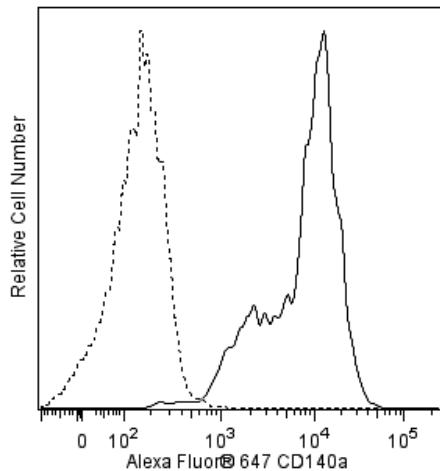
Alexa Fluor® 647 Mouse Anti-Human CD140a

Product Information

Material Number:	562798
Alternate Name:	PDGF Receptor α ; PDGFRA; PDGFR α ; PDGF-R-alpha; PDGFR2; PGFRA; RHEPDGFR
Size:	50 tests
Vol. per Test:	5 μ l
Clone:	α R1
Immunogen:	Human PDGFR α Transfected Cell Line
Isotype:	Mouse (BALB/c) IgG2a, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and $\leq 0.09\%$ sodium azide.

Description

The α R1 monoclonal antibody specifically binds to the human platelet derived growth factor (PDGF) receptor α (PDGFR α), also known as CD140a. CD140a is a 170 kDa single transmembrane glycoprotein expressed on fibroblasts, smooth muscle cells, glial cells and chondrocytes. PDGF receptors α and β are single glycoproteins with intracellular tyrosine kinase domains. They are structurally similar to the M-CSF receptor and CD117 (c-kit). Their ligand, PDGF, is a mitogen for connective tissue cells and glial cells. PDGF plays a role in wound healing and it also acts as a chemoattractant for fibroblasts, smooth muscle cells, glial cells, monocytes and neutrophils. Functional PDGF is secreted in disulfide linked, homodimeric or heterodimeric forms comprised of A or B chains (PDGFAA, PDGF-BB or PDGF-AB). Binding of divalent PDGF induces receptor dimerization with three possible forms: $\alpha\alpha$, $\alpha\beta$, $\beta\beta$. The PDGFR α subunit binds both PDGF A and B chains, whereas the PDGFR β subunit binds only PDGF B chains. Although both receptor subunits can stimulate mitogenic responses, only the β subunit can induce chemotaxis. The α R1 antibody is specific for PDGFR α and does not crossreact with PDGFR β . It immunoprecipitates human, monkey, rabbit, pig, dog and cat PDGFR α . It does not recognize hamster, rat or mouse PDGFR α .



Flow cytometric analysis of CD140a expression on the human MG-63 cell line. Human MG-63 cells were stained with either Alexa Fluor® 647 Mouse Anti-Human CD140a antibody (Cat. No. 562798; solid line histogram) or Alexa Fluor® 647 Mouse IgG2a, κ Isotype Control (Cat. No. 557715; dashed line histogram). The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometry was performed using a BD LSR™ II 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

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
557715	Alexa Fluor® 647 Mouse IgG2a, κ Isotype Control	100 tests	G155-178
554656	Stain Buffer (FBS)	500 ml	(none)

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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- μ l experimental sample (a test).
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
5. 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.
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
8. 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.
9. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

References

Bazenot CE, Kazlauskas A. The PDGF receptor alpha subunit activates p21ras and triggers DNA synthesis without interacting with rasGAP. *Oncogene*. 1993; 9(2):517-525. (Biology)

Fitzgerald KA, O'Neill LAJ, Geraring AJH, Callard, RE. *The Cytokine FactsBook*. San Diego, CA: Academic Press; 2001:1-515. (Biology)

LaRochelle WJ, Jensen RA, Heidaran MA, et al. Inhibition of platelet-derived growth factor autocrine growth stimulation by a monoclonal antibody to the human alpha platelet-derived growth factor receptor. *Cell Growth Differ*. 1993; 4(7):547-553. (Immunogen: ELISA, Flow cytometry, Immunoprecipitation, Neutralization)

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