Technical Data Sheet

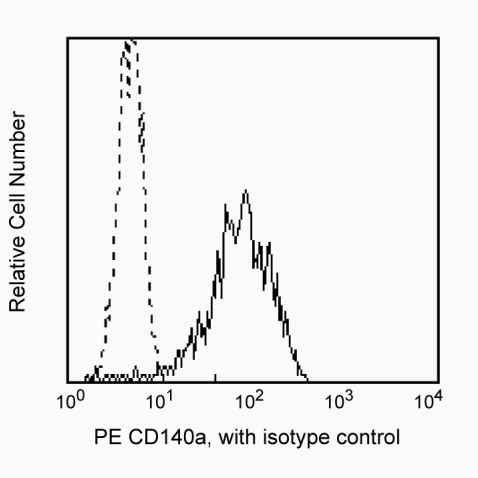
PE Mouse Anti-Human CD140a

Product Information

Material Number:	**556002**
Alternate Name:	PDGF Receptor α; PDGFRA; PDGFRα; PDGF-R-alpha; PDGFR2; PGFRA; RHEPDGFRA
Size:	100 Tests
Vol. per Test:	20 µl
Clone:	αR1 (also known as Alpha-R1)
Immunogen:	Human PDGFRα Transfected Cell Line
Isotype:	Mouse (BALB/c) IgG2a, κ
Reactivity:	QC Testing: Human
Workshop:	VI E031, BP229
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The αR1 monoclonal antibody specifically binds to the human platelet derived growth factor (PDGF) receptor α (PDGFRα), 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: αα, αβ, ββ. The PDGFRα subunit binds both PDGF A and B chains, whereas the PDGFRβ subunit binds only PDGF B chains. Although both receptor subunits can stimulate mitogenic responses, only the β subunit can induce chemotaxis. The αR1 antibody is specific for PDGFRα and does not crossreact with PDGFRβ. It immunoprecipitates human, monkey, rabbit, pig, dog and cat PDGFRα. It does not recognize hamster, rat or mouse PDGFRα.



***Flow cytometric analysis of MG-63 (osteosarcoma cell line) cells**. MG-63 cells were stained with PE Mouse Anti-Human CD140a (Cat. No. 556002; solid line histogram) or PE Mouse IgG2a, κ Isotype Control (Cat. No. 555574; dashed line histogram). The fluorescence histograms were derived from gated events with the forward and side light-scattering characteristics of viable MG-63 cells. Flow cytometry was performed on a FACScan.*

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

Flow cytometry	Routinely Tested

BD Biosciences

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Suggested Companion Products

Catalog Number	Name	Size	Clone
555574	PE Mouse IgG2a, κ Isotype Control	100 Tests	G155-178
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	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. 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.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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Fitzgerald KA, Callard RE. *The cytokine factsbook., 2nd ed. / Katherine A. Fitzgerald ... [et al.].*. San Diego: Academic Press; 2001:1-515. (Immunogen)

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. (Clone-specific: Flow cytometry, Functional assay, Immunoprecipitation)