

Technical Data Sheet

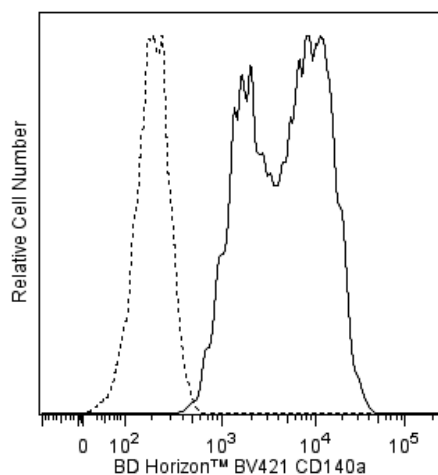
BV421 Rat Anti-Mouse CD140A**Product Information**

Material Number:	562774
Alternate Name:	Pdgfra; Pdgfr2; PDGF-R alpha; Platelet derived growth factor receptor alpha
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	APA5
Immunogen:	Mouse PDGF Receptor α chain
Isotype:	Rat (WF) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The APA5 antibody monoclonal antibody specifically binds to CD140a, the Platelet-Derived Growth Factor Receptor alpha chain (PDGFR-α, PDGFR-α). CD140a is a receptor tyrosine kinase that is widely expressed on cells of mesenchymal origin in the embryo and adult. CD140a is expressed on several other cell types during embryonic development, but not on hematopoietic cells. CD140a binds to PDGF A and B chains, in contrast to PDGFR-b (CD140b) that binds only to the PDGF B chain. Biologically active PDGF is a disulphide-linked dimer, forming the AA, AB, and BB isoforms. Ligand binding to the PDGF Receptor induces the formation of receptor dimers (aa, ab, or bb), autophosphorylation, and internalization. The APA5 antibody has been demonstrated to block binding of PDGF-AA to PDGFR-α-expressing cells in vitro and to block some PDGF-mediated developmental events in vivo.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon™ BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon™ BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue™ conjugates.



Flow cytometric analysis of CD140a expression on mouse fibroblast NIH/3T3 cells. Fresh NIH/3T3 cells were stained with either BD Horizon™ BV421Rat anti-Mouse CD140a antibody (Cat. No. 562774, solid line histogram) or BD Horizon™ BV421 Rat IgG2a, κ Isotype Control (Cat. No. 562602, 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 Cytometer 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 BD Horizon™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

Application Notes**Application**

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
562602	BV421 Rat IgG2a, κ Isotype Control	50 μ g	R35-95

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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/protocols for technical protocols.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
8. Brilliant Violet™ 421 is a trademark of Sirigen.

References

Fruttiger M, Calver AR, Krüger WH. PDGF mediates a neuron-astrocyte interaction in the developing retina. *Neuron*. 1996; 17(6):1117-1131. (Clone-specific: Blocking)

Heldin CH. Structural and functional studies on platelet-derived growth factor. *EMBO J*. 1992; 11(12):4251-4259. (Biology)

Takakura N, Yoshida H, Kunisada T, Nishikawa S, Nishikawa SI. Involvement of platelet-derived growth factor receptor-alpha in hair canal formation. *J Invest Dermatol*. 1996; 107(5):770-777. (Immunogen: Blocking, ELISA, Immunohistochemistry, Inhibition, Western blot)

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