

Technical Data Sheet

BV650 Rat Anti-Mouse CD140a

Product Information

Material Number:	740531
Size:	50 µg
Clone:	APA5
Alternative Name:	Pdgfra; Pdgfr2; PDGF-R alpha; Platelet derived growth factor receptor alpha
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat WF, also known as Wistar Furth IgG2a, κ
Immunogen:	Mouse PDGF Receptor α chain
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	18595
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

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™ BV650 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 650-nm. BD Horizon BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

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 BV650 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

Catalog Number	Name	Size	Clone
563236	BV650 Rat IgG2a, κ Isotype Control	50 µg	R35-95
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
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 wwwbdbiosciences.com/colors.
7. Please refer to wwwbdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Violet 650 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
10. Alexa Fluor® is a registered trademark of Life Technologies Corporation.

References

- Fruittiger M, Calver AR, Krüger WH. PDGF mediates a neuron-astrocyte interaction in the developing retina. *Neuron*. 1996; 17(6):1117-1131.
- Heldin CH. Structural and functional studies on platelet-derived growth factor. *EMBO J*. 1992; 11(12):4251-4259.
- 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.

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