Technical Data Sheet

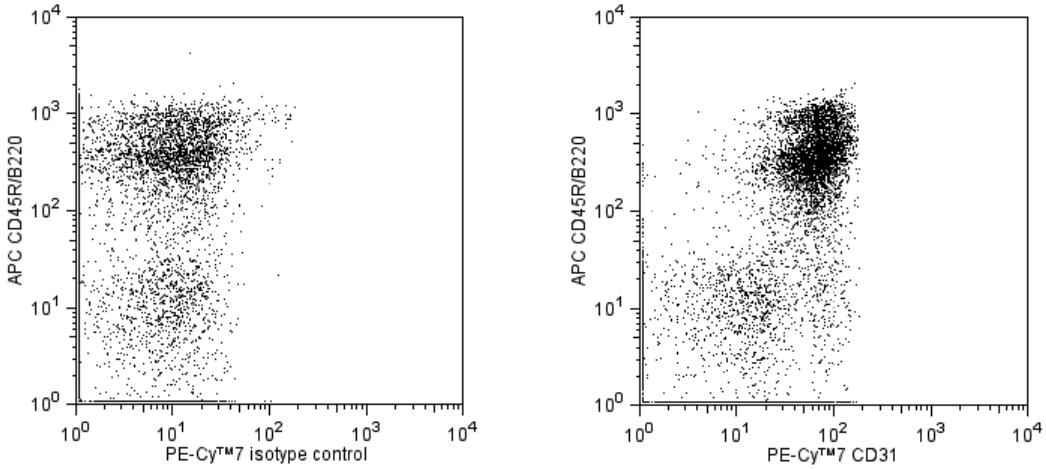
PE-Cy™7 Rat Anti-Mouse CD31

Product Information

Material Number:	**561410**
Alternate Name:	Platelet endothelial cell adhesion molecule; Pecam1; PECAM-1; Pecam-1
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	390
Immunogen:	C3H/HeJ mouse hematopoietic progenitor cell line 32D
Isotype:	Rat (LEW) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 390 monoclonal antibody specifically binds to CD31, also known as PECAM-1 (platelet endothelial cell adhesion molecule). CD31 is a ~130 kDa integral membrane glycoprotein, a member of the immunoglobulin superfamily, that mediates homophilic and heterophilic cell-cell adhesion. CD31 is expressed constitutively on the surface of adult and embryonic endothelial cells and is weakly expressed on many peripheral leukocytes and platelets. It has also been detected on bone marrow-derived hematopoietic stem cells and embryonic stem cells. CD31 is involved in the transendothelial emigration of neutrophils, and neutrophil PECAM-1 appears to be down-regulated after extravasation into inflamed tissues. Multiple alternatively spliced isoforms are detected during early post-implantation embryonic development; this alternative splicing is involved in regulation of ligand specificity. CD38 and vitronectin receptor (αvβ3 integrin, CD51/CD61) are proposed to be ligands for CD31. CD31-mediated endothelial cell-cell interactions are involved in angiogenesis. The 390 mAb inhibits a variety of in vitro and in vivo functions mediated by CD31.



Flow cytometric analysis of mouse CD31 expression on mouse bone marrow cells. *Bone marrow cells from BALB/c mice were stained with APC Rat anti-Mouse CD45R/B220 antibody (Cat. No. 553092) and either with a PE-Cy™7 Rat IgG2a, κ Isotype Control (Cat. No. 552784, Left Panel) or with a PE-Cy™7 Rat anti-Mouse CD31 antibody (Cat. No. 561410, Right Panel). Two-color flow cytometric dot plots showing the correlated expression of CD31 (or Ig isotype control staining) and CD45R/B220 were derived from gated events with the light scattering characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometry System.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with PE-Cy7 under optimum conditions, and unconjugated antibody and free PE-Cy7 were removed.
Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Flow cytometry	Routinely Tested

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Recommended Assay Procedure:

PE-Cy7 tandem fluorochrome emission is collected in a detector for fluorescence wavelengths of 750 nm and higher. PE-Cy7-labeled antibodies can be used with FITC- and R-PE-labeled reagents in single-laser flow cytometers with no significant spectral overlap between PE-Cy7 and FITC.

Suggested Companion Products

Catalog Number	Name	Size	Clone
552784	PE-Cy™7 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)
553092	APC Rat Anti-Mouse CD45R/B220	0.1 mg	RA3-6B2

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
3. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
6. Warning: Some APC-Cy7 and PE-Cy7 conjugates show changes in their emission spectrum with prolonged exposure to formaldehyde. If you are unable to analyze fixed samples within four hours, we recommend that you use BD™ Stabilizing Fixative (Cat. No. 338036).
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8. PE-Cy7 is a tandem fluorochrome composed of R-phycoerythrin (PE), which is excited by 488-nm light and serves as an energy donor, coupled to the cyanine dye Cy7, which acts as an energy acceptor and fluoresces maximally at 780 nm. PE-Cy7 tandem fluorochrome emission is collected in a detector for fluorescence wavelengths of 750 nm and higher. Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from PE may be observed. Therefore, we recommend that individual compensation controls be performed for every PE-Cy7 conjugate. PE-Cy7 is optimized for use with a single argon ion laser emitting 488-nm light, and there is no significant overlap between PE-Cy7 and FITC emission spectra. When using dual-laser cytometers, which may directly excite both PE and Cy7, we recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.

References

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