

Technical Data Sheet

R718 Mouse Anti-Human CD31

Product Information

Material Number:	751869
Size:	50 µg
Clone:	MBC 78.2
Alternative Name:	PECAM-1; PECAM1; EndoCAM; GPIIA'
Reactivity:	Tested in Development: Human
Isotype:	Mouse BALB/c IgG1, κ
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Workshop No.:	V P112
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The MBC 78.2 monoclonal antibody recognizes CD31 which is also known as, Platelet endothelial cell adhesion molecule (PECAM-1), platelet GPIIa, or EndoCAM. CD31 is a ~130 kDa type I transmembrane glycoprotein that belongs to the Ig gene superfamily. CD31 is comprised of an extracellular region with six IgC-like domains, a transmembrane region, and a cytoplasmic domain that contains two immunoreceptor tyrosine-based inhibitory motifs (ITIMs). The MBC 78.2 antibody specifically binds to an epitope located on membrane-proximal, extracellular Ig-like domain 6 of CD31. This epitope remains expressed by activated T cells after enzymatic cleavage and shedding of a soluble extracellular CD31 fragment comprised of Ig-like domains 1 to 5 from cells. In contrast to the MBC 78.2 antibody, the WM59 monoclonal antibody reportedly binds to the extracellular Ig-like domain 2 of CD31. WM59 can thus bind to cells that express intact CD31 but not to cells that express a truncated form CD31 that lacks at least the membrane distal Ig-like domains 1 and 2 of CD31. CD31 has wide tissue distribution and is expressed on platelets, monocytes, granulocytes, some T cell subsets, and at high levels on endothelial cells. This cell adhesion molecule has been implicated in a number of cellular phenomena, including vascular wound healing, angiogenesis, transendothelial migration of leucocytes, and the regulation of T cell responses.

The antibody was conjugated to BD Horizon Red 718, which has been developed exclusively for BD Biosciences as a better alternative to Alexa Fluor® 700. BD Horizon Red 718 can be excited by the red laser (628 – 640 nm) and, with an Em Max around 718 nm, it can be detected using a 730/45 nm filter. Due to similar excitation and emission properties, we do not recommend using R718 in combination with APC-R700 or Alexa Fluor® 700.

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 the dye under optimum conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to BD CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and BD CompBead to ensure that BD CompBeads are appropriate for your specific cellular application.

Suggested Companion Products

Catalog Number	Name	Size
564219	Human BD Fc Block™	50 µg
554656	Stain Buffer (FBS)	500 mL
554657	Stain Buffer (BSA)	500 mL
555899	Lysing Buffer	100 mL

Product Notices

1. Researchers should determine the optimal concentration of this reagent for their individual applications.
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. An isotype control should be used at the same concentration as the antibody of interest.
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. Alexa Fluor® is a registered trademark of Life Technologies Corporation.
6. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
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