

Technical Data Sheet

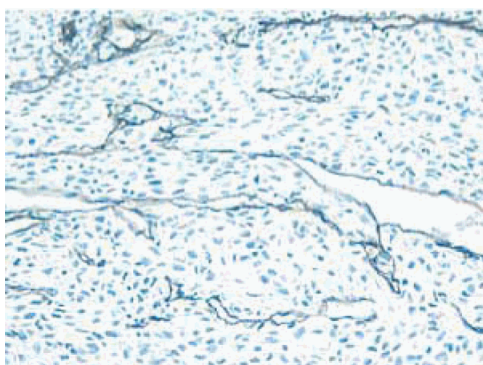
Purified Rat Anti-Mouse CD31

Product Information

Material Number:	550274
Alternate Name:	PECAM-1
Size:	1.0 ml
Concentration:	15.625 µg/ml
Clone:	MEC 13.3
Immunogen:	129/Sv mouse-derived endothelioma cell line tEnd.1
Isotype:	Rat (LEW) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA, goat serum, and ≤0.09% sodium azide.

Description

The MEC13.3 antibody reacts with CD31, also known as PECAM-1 (Platelet Endothelial Cell Adhesion Molecule-1). CD31 is a 130 kDa integral membrane protein, a member of the immunoglobulin superfamily, that mediates cell-to-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 the 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 MEC13.3 mAb inhibits a variety of in vitro and in vivo functions mediated by CD31.



Immunohistochemical staining of endothelial cells. The zinc-fixed paraffin-embedded section of U-87 MG tumor in mouse brain was stained with MEC13.3 mAb. Note the brown labeling of endothelia of blood vessels in the tumor.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

Flow cytometry	Routinely Tested
Immunohistochemistry-frozen	Tested During Development
Immunohistochemistry-zinc-fixed	Tested During Development
Immunoprecipitation	Reported
Blocking	Reported
Immunohistochemistry-formalin (antigen retrieval required)	Not Recommended

Recommended Assay Procedure:

Immunocytochemistry: The MEC13.3 antibody is recommended to test for immunohistochemical staining of Zinc-fixed paraffin sections. Tissues tested were mouse spleen, lung, heart, and thymus. Immunohistochemistry of acetone-fixed frozen sections has been reported. The antibody stains endothelial cells on small and large blood vessels. The isotype control recommended for use with this antibody is purified rat IgG2a (Cat. No. 559073). For optimal indirect immunohistochemical staining, the MEC13.3 antibody should be titrated (1:10 to 1:50 dilution) and visualized via a three-step staining procedure in combination of biotinylated polyclonal anti-rat Igs (multiple adsorption) (Cat. No. 559286) as

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the secondary antibody and Streptavidin-HRP (Cat. No. 550946) together with the DAB Substrate Kit (Cat. No. 550880). Alternatively, the anti-rat Ig HRP Detection Kit (Cat. No. 551013) can be used to accomplish the three-step staining procedure. The clone MEC13.3 is not recommended for formalin-fixed paraffin embedded sections

Suggested Companion Products

Catalog Number	Name	Size	Clone
559073	Purified Rat IgG2a κ Isotype Control	0.25 mg	R35-95
559286	Biotin Goat Anti-Rat Ig	0.5 mg	Polyclonal
550880	DAB Substrate Kit	500 tests	(none)
550946	Streptavidin HRP	50 ml	(none)
551013	Anti-Rat Ig HRP Detection Kit	200 tests	(none)
550523	IHC Zinc Fixative	2 x 500 ml	(none)

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. 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.
4. This antibody has been developed for the immunohistochemistry application. However, a routine immunohistochemistry test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance.
5. An isotype control should be used at the same concentration as the antibody of interest.
6. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.

References

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DeLisser HM, Christofidou-Solomidou M, Strieter RM, et al. Involvement of endothelial PECAM-1/CD31 in angiogenesis. *Am J Pathol*. 1997; 151(3):671-677. (Clone-specific: Blocking)

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Vanzulli S, Gazzaniga S, Braidot MF, et al. Detection of endothelial cells by MEC 13.3 monoclonal antibody in mice mammary tumors. *Biocell*. 1997; 21(1):39-46. (Biology)

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