

Technical Data Sheet

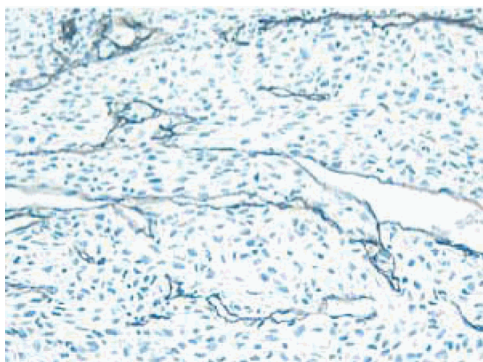
Purified Rat Anti-Mouse CD31

Product Information

Material Number:	550274
Alternate Name:	PECAM-1
Size:	1.0 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 $\leq 0.09\%$ 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 ($\alpha v\beta 3$ 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

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

Store undiluted at 4° C.

Application Notes

Application

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

Recommended Assay Procedure:

Immunocytochemistry: The MEC13.3 antibody is tested 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

BD Biosciences

www.bdbiosciences.com

United States 877.232.8995 Canada 888.259.0187 Europe 32.53.720.550 Japan 0120.8555.90 Asia Pacific 65.6861.0633 Latin America/Caribbean 55.11.5185.9995

For country-specific contact information, visit www.bdbiosciences.com/how_to_order/

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2007 BD



staining procedure in combination of biotinylated polyclonal anti-rat Igs (multiple adsorbed) (Cat. No. 559286) as the secondary antibody and Streptavidin-HRP (Cat. No. 550946) together with the DAB Substrate Kit (Cat. No. 550880). Alternatively, the MEC13.3 antibody can go with anti-rat Ig HRP Detection Kit (Cat. No. 551013) in order 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 Polyclonal Goat Anti-Rat IgG	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)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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.

References

- Baldwin HS, Shen HM, Yan HC, et al. Platelet endothelial cell adhesion molecule-1 (PECAM-1/CD31): alternatively spliced, functionally distinct isoforms expressed during mammalian cardiovascular development. *Development*. 1994; 120(9):2539-2953.(Clone-specific: Blocking)
- Christofidou-Solomidou M, Nakada MT, Williams J, Muller WA, DeLisser HM. Neutrophil platelet endothelial cell adhesion molecule-1 participates in neutrophil recruitment at inflammatory sites and is down-regulated after leukocyte extravasation. *J Immunol*. 1997; 158(10):4872-4878.(Clone-specific: Blocking)
- 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)
- DeLisser HM, Newman PJ, Albelda SM. Molecular and functional aspects of PECAM-1/CD31. *Immunol Today*. 1994; 15(10):490-495.(Biology)
- Piali L, Hammel P, Uherek C, et al. CD31/PECAM-1 is a ligand for alpha v beta 3 integrin involved in adhesion of leukocytes to endothelium. *J Cell Biol*. 1995; 130(2):451-460.(Biology)
- 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)
- Vecchi A, Garlanda C, Lampugnani MG, et al. Monoclonal antibodies specific for endothelial cells of mouse blood vessels. Their application in the identification of adult and embryonic endothelium. *Eur J Cell Biol*. 1994; 63(2):247-254.(Immunogen: Immunoprecipitation)

BD Biosciences

www.bdbiosciences.com

United States 877.232.8995 Canada 888.259.0187 Europe 32.53.720.550 Japan 0120.8555.90 Asia Pacific 65.6861.0633 Latin America/Caribbean 55.11.5185.9995

For country-specific contact information, visit www.bdbiosciences.com/how_to_order/

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2007 BD

