

## CD31

Concentrated Rat Monoclonal Antibody  
902-303-091817

**BIOCARE**  
M E D I C A L

<b>Catalog Number:</b>	<b>CM 303 A, B</b>
<b>Description:</b>	0.1, 0.5 ml, concentrated
<b>Dilution:</b>	1:100
<b>Diluent:</b>	Da Vinci Green

### Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

### Summary and Explanation:

CD31 (PECAM-1) is a glycoprotein expressed on endothelial cells and in platelets. It is known to be involved in cell signaling and cell adhesion. PECAM-1 mediates cell to cell adhesion and supports the idea that it may be involved in some of the interactive events taking place during thrombosis, wound healing, and angiogenesis. CD31 is of value in the study of benign and malignant vascular tumors. Staining for CD31 has also been used to measure angiogenesis, which reportedly predicts tumor recurrence. Reliable identification of endothelial cells is a prerequisite for understanding vascularity changes in many cardiovascular diseases and therapeutic interventions. This rat anti-mouse CD31 antibody is expressed in endothelial cells from a variety of mouse tissues and is weakly expressed in peripheral lymphoid cells and platelets. CD31 is well suited for formalin-fixed paraffin-embedded tissues.

### Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a secondary antibody is added to bind to the primary antibody. An enzyme label is then added to bind to the secondary antibody; this detection of the bound antibody is evidenced by a colorimetric reaction.

**Source:** Rat monoclonal

**Species Reactivity:** Mouse

**Clone:** Mec13.3

**Isotype:** Rat IgG2ak

**Total Protein Concentration:** ~10 mg/ml. Call for lot specific Ig concentration.

**Epitope/Antigen:** CD31

**Cellular Localization:** Cell surface

**Positive Tissue Control:** Kidney, lung and colon

### Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

### Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

### Staining Protocol Recommendations:

**Peroxide Block:** Block for 5 minutes with Biocare's Peroxidized 1.

### Digestion Method (Required):

Digest with Trypsin enzyme (dilute 1:2) for 5 minutes at 37°C - or - for 15 minutes at RT.

**Protein Block:** Incubate for 15-30 minutes at RT with Biocare's Rodent Block M.

**Primary Antibody:** Incubate for 2 hours at RT or overnight at 2-8°C.

**Probe:** Incubate for 10-15 minutes at RT with a secondary probe.

**Polymer:** Incubate for 10-20 minutes at RT with a tertiary polymer.

**Chromogen:** Incubate for 5 minutes at RT with Biocare's Betazoid DAB.

### Staining Protocol Recommendations Cont'd:

#### Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

#### Technical Note:

1. This antibody has been standardized with Biocare's Rat-on-Mouse CD31 Polymer Detection Kit. Use TBS buffer for washing steps.
2. All reagents necessary for procedure are available in the Rat-on-Mouse CD31 Polymer Detection Kit (RT517SK-6ml). For additional sizes, please purchase reagents separately. Please refer to catalog for size and ordering information.

#### Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

#### Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (3)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come into contact with sensitive areas, wash with copious amounts of water. (4)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at <http://biocare.net>.

#### Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

#### References:

1. Albelda SM, *et al.* Molecular and cellular properties of PECAM-1 (endoCAM/CD31): a novel vascular cell-cell adhesion molecule. *J Cell Biol.* 1991;114(5):1059-68.
2. Ismail JA, *et al.* Immunohistologic labeling of murine endothelium. *Cardiovasc Pathol.* 2003;12(2):82-90.
3. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
4. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.



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