

## CD31

### Concentrated Monoclonal Antibody

Control Number: 902-303-092017

**Catalog Number:** CM 303 A, B  
**Description:** 0.1, 0.5ml, concentrated  
**Dilution:** 1:50-1:100  
**Diluent:** Da Vinci Green

**Intended Use:**  
For Research Use Only

#### 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.

**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 Control:** Kidney, lung and colon

**Normal Tissue:** Kidney and lung

**Abnormal Tissue:** Mouse carcinomas

#### 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.

#### Protocol Recommendations

##### Peroxide Block:

If using an HRP system, block for 5 minutes with BIOCARE's PEROXIDAZED 1.

**Pretreatment Solution (recommended):** N/A

**Pretreatment Protocol:** N/A

##### 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 minutes at RT with a Probe.

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

#### Chromogen:

Incubate for 5 minutes at RT when using BIOCARE's Betazoid DAB.

#### Technical Note:

This antibody has been standardized with BIOCARE's Rat-on-Mouse CD31 Polymer Detection Kit. It can also be used on an automated staining system. Use TBS buffer for washing steps. 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.

#### Performance Characteristics:

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to: fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of BIOCARE products. Ultimately, it is the responsibility of the investigator to determine optimal conditions. These products are tools that can be used for interpretation of morphological findings in conjunction with other diagnostic tests and pertinent clinical data by a qualified pathologist.

#### Quality Control:

Refer to NCCLS Quality Assurance for Immunocytochemistry approved guidelines, December 1999 MM4-A Vol.19 No.26 for more information about Tissue Controls.

#### Precautions:

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)

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 in contact with sensitive areas, wash with copious amounts of water.

Microbial contamination of reagents may result in an increase in nonspecific staining. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change. The MSDS is available upon request.

#### Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact BIOCARE's Technical Support at 1-800-542-2002.

#### Limitations and Warranty:

There are no warranties, expressed or implied, which extend beyond this description. BIOCARE is not liable for property damage, personal injury, or economic loss caused by this product.

#### References:

1. Albelda SM et al.(1991) Molecular and cellular properties of PECAM-1 (endoCAM/CD31): a novel vascular cell-cell adhesion molecule. J Cell Biol. 114 (5):1059-68.
2. Ismail JA et al. (2003) Immunohistologic labeling of murine endothelium. Cardiovasc Pathol. 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. National Committee for Clinical Laboratory Standards(NCCLS). Protection of laboratory workers from infectious diseases transmitted by blood and tissue; proposed guideline. Villanova, PA 1991;7(9). Order code M29-P.