CD31 (PECAM-1)

Concentrated and Prediluted Monoclonal
Antibody 902-347-072917

BIOCARE MEDICAL

Catalog Number:	ACR 347 A, C	APR 347 AA
Description:	0.1, 1.0 ml, concentrated	6.0 ml, prediluted
Dilution:	1:200	Ready-to-use
Diluent:	Renoir Red	N/A

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

Summary and Explanation:
CD31 recognizes a 100kDA glycoprotein in endothelial cells and 130kD in platelets. It reacts weakly with mantle zone B-cells, peripheral T-cells, and neutrophils. CD31 can detect vascular endothelium associated antigen and has been used as a marker for benign and malignant human vascular disorders, myeloid leukemia infiltrates and megakaryocytes in normal bone marrow. When compared to Factor VIII and CD34 antibodies, studies have shown CD31 to be a superior marker for angiogenesis. CD31 has been used to measure angiogenesis, which reportedly predicts tumor recurrence. CD31 used in a panel with CD34 and Factor VIII has also been used to mark Kaposi's sarcoma and angiosarcomas. Other studies have also indicated that CD31 and CD34 can be used as markers for myeloid progenitor cells that recognize different subsets of myeloid leukemia infiltrates (granular sarcomas).

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, an enzyme labeled polymer is added to bind to the primary antibody. This detection of the bound antibody is evidenced by a colorimetric reaction.

Source: Mouse monoclonal
Species Reactivity: Human; others not tested
Clone: BC2
Isotype: IgG1/kappa
Epitope/Antigen: CD31
Cellular Localization: Cytoplasmic/membrane
Positive Control: Tonsil, angiosarcoma, or colon cancer
Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig concentration.

Known Applications:
Immunohistochemistry (formalin-fixed paraffin-embedded tissues)
Supplied As: Buffer with protein carrier and preservative
Storage and Stability:
Store at 2ºC to 8ºC. 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 2ºC to 8ºC.

Staining Protocol Recommendations:
Peroxide Block: Block for 5 minutes with Biocare's Peroxidazed 1.
Pretreatment: Perform heat retrieval using Biocare's Diva Decloaker. Refer to the Diva Decloaker data sheet for specific instructions.
Protein Block (Optional): Incubate for 5-10 minutes at RT with Biocare's Background Punisher.
Primary Antibody: Incubate for 30 minutes at RT.
Probe: N/A
Polymer: Incubate for 30 minutes at RT with a secondary-conjugated polymer.

Staining Protocol Recommendations Cont'd:
Chromogen:
Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Biocare's Warp Red.
Counterstain:
Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.
Technical Note:
This antibody has been standardized with Biocare's MACH 2 detection system. Use TBS buffer for washing steps.
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_3) 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) (7)
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. (8)
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. Govender D, *et al.* CD31 (JC70) expression in plasma cells: an immunohistochemical analysis of reactive and neoplastic plasma cells. J Clin Pathol. 1997 Jun;50(6):490-3.
2. Rongioletti F, *et al.* Tumor vascularity as a prognostic indicator in intermediate thickness (0.76-4 mm) cutaneous melanoma. A quantitative assay. Am J Dermatopathol. 1996 Oct;18(5):474-7.
3. Engel CJ, *et al.* Tumor angiogenesis predicts recurrence in invasive colorectal cancer when controlled for Dukes staging. Am J Surg Pathol. 1996 Oct;20 (10):1260-5.
4. Russell Jones R, *et al.* Staining for CD31 and CD34 in Kaposi sarcoma. Virchows Arch. 1996 Jul;428(4-5):217-21.

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References Cont'd:
5. Poblet E, *et al.* Different immunoreactivity of endothelial markers in well and poorly differentiated areas of angiosarcomas. J Clin Pathol. 1995 Nov;48(11):1011-6.
6. Hudock J, Chatten J, Miettinen M. Immunohistochemical evaluation of myeloid leukemia infiltrates (granulocytic sarcomas) in formaldehyde-fixed, paraffin-embedded tissue. Am J Clin Pathol. 1994 Jul;102(1):55-60.
7. 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."
8. 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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