



CD31 (L133.1)

Form Catalog number
PE 340297

Product availability varies by region. Contact BD Biosciences Customer Support or your local sales representative for information.

RESEARCH APPLICATIONS

Research applications include studies of:

- Leucocyte cell adhesion molecules¹⁻³
- Platelets⁴
- Interactions between platelets, leucocytes, and endothelial cells^{1-3,5}
- Vascular endothelium^{2,6-8}

DESCRIPTION

Specificity

The CD31 (Anti-PECAM-1) antibody recognizes the platelet/endothelial cell adhesion molecule-1 (PECAM-1), a 130 to 140-kilodalton (kDa) single-chain integral membrane glycoprotein that is a member of the immunoglobulin gene superfamily.^{1,6,9} The CD31 antigen is composed of six extracellular immunoglobulin-like domains belonging to the C2 group. C2 domains are also found in other members of the immunoglobulin superfamily, the cell adhesion molecules (CAMs).^{6,9,10} The CD31 antigen functions as a vascular cell adhesion molecule and is involved in the process of leucocyte migration through the intercellular junctions of vascular endothelial cells.²⁻⁴ It may also be involved in thrombosis, angiogenesis, wound healing, and inflammation.^{3,7}

Antigen distribution

The CD31 antigen is expressed on endothelial cells, platelets, T-lymphocyte subsets, monocytes, and granulocytes.^{3,6,9,11} The CD31 antigen has also been found in metastatic colon carcinoma.¹ The CD31 antigen is the only known member of the CAM family to be expressed on platelets.^{6,10} The antigen is localized at regions of cell-cell contacts and may function as an adhesion molecule, mediating adhesion between leucocytes/endothelial cells, leucocytes/platelets, and endothelial cells/endothelial cells.^{1-6,11}

Clone

The CD31 (Anti-PECAM-1) antibody, clone L133.1, is derived from the fusion of Sp2/0 mouse cells with spleen cells from a BALB/c mouse immunized with purified human natural killer cells.

Composition

The CD31 (Anti-PECAM-1) antibody is composed of mouse IgG₁ heavy chains and kappa light chains.

Product configuration

The following reagent is supplied in phosphate buffered saline (PBS) containing a stabilizer and a preservative.

| Form | Number of tests | Volume per test (μL) ^a | Amount provided (μg) | Total volume (mL) | Concentration (μg/mL) | Stabilizer | Preservative |
|------|-----------------|-----------------------------------|----------------------|-------------------|-----------------------|------------|-------------------|
| PE | 50 | 20 | 12.5 | 1.0 | 12.5 | Gelatin | 0.1% Sodium azide |

a. Volume required to stain 10⁶ cells.

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

PROCEDURE

Visit our website (bdbiosciences.com) or contact your local BD representative for the lyse/wash protocol for direct immunofluorescence.

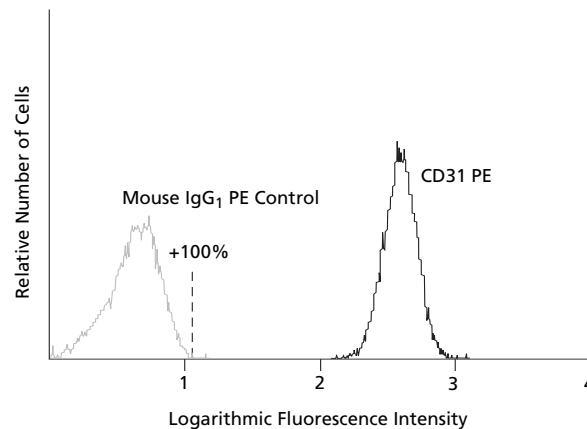
Method for direct immunofluorescence

Add 20 μ L of reagent to 100 μ L of whole blood. Mix thoroughly and incubate for 15 to 30 minutes in the dark at 2°C–8°C. Add 2 mL of 1X BD FACS™ lysing solution (Cat. No. 349202) at room temperature and vortex tube thoroughly. Incubate for no more than 10 to 12 minutes at room temperature in the dark. Wash with 1X PBS with 0.1% sodium azide, add 0.5 mL of 1% paraformaldehyde, mix thoroughly, and analyze. If samples are not to be analyzed immediately, mix thoroughly just prior to analysis. Refer to the BD FACS lysing solution package insert.

REPRESENTATIVE DATA

Flow cytometric analysis was performed on peripheral blood with scatter gates set on the granulocyte fraction. Laser excitation was at 488 nm.

Figure 1 Single parameter display of peripheral blood granulocytes analyzed with a BD FACScan™ flow cytometer



HANDLING AND STORAGE

Store vials at 2°C–8°C. Conjugated forms should not be frozen. Protect from exposure to light. Each reagent is stable until the expiration date shown on the bottle label when stored as directed.

WARNING

All biological specimens and materials coming in contact with them are considered biohazards. Handle as if capable of transmitting infection^{12,13} and dispose of with proper precautions in accordance with federal, state, and local regulations. Never pipette by mouth. Wear suitable protective clothing, eyewear, and gloves.

CHARACTERIZATION

To ensure consistently high-quality reagents, each lot of antibody is tested for conformance with characteristics of a standard reagent. Representative flow cytometric data is included in this data sheet.

WARRANTY

Unless otherwise indicated in any applicable BD general conditions of sale for non-US customers, the following warranty applies to the purchase of these products.

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