Monoclonal Antibodies Detecting Human Antigens

BD Oncomark™

CD15/CD34

Catalog No. 341128  50 Tests  20 µL/test

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

This reagent combination can be used to study expression of the CD34 and CD15 antigens in myeloid leukemias.1-5 A characteristic pattern of coexpression of these markers has been observed in research of myeloid differentiation and certain acute myeloid leukemias (M3-AML).5 The CD117 antigen is also frequently studied in abnormal developmental processes in combination with CD15 and CD34. The addition of CD45, in conjunction with side scatter, might be useful as a gating aid for blast identification.6-9

RESEARCH APPLICATIONS

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DESCRIPTION

Specificity

The CD15 antibody recognizes the human myelomonocytic antigen lacto-N-fucopentose III.10

The CD34 antigen is a single-chain transmembrane glycoprotein, with a molecular weight of 105 to 120 kilodaltons (kDa). The antigen is associated with human hematopoietic progenitor cells and is a differentiation stage–specific leucocyte antigen.11-16 Anti–HPCA-1 and Anti–HPCA-2 (clone 8G12) recognize two distinct CD34 epitopes; at least three epitopes have been identified.11,14 Clone 8G12 recognizes the class 3 epitope.

Antigen distribution

The CD15 antigen, present on greater than 95% of mature peripheral blood eosinophils and neutrophils, is present at low density on circulating monocytes.17

The CD34 antigen is present on immature hematopoietic precursor cells and all hematopoietic colony-forming cells in bone marrow and blood.13,16 The CD34 antigen is also found on capillary endothelial cells and approximately 1% of human thymocytes.13,18 Normal peripheral blood lymphocytes, monocytes, granulocytes, and platelets do not express the CD34 antigen.11,13,16 CD34 antigen density is highest on early hematopoietic progenitor cells and decreases as cells mature. The antigen is absent on fully differentiated hematopoietic cells.13,19,20

Approximately 60% of acute B-lymphoid leukemias and AML and 1–5% of acute T-lymphoid leukemias (ATLL) express the CD34 antigen.1,13,21 The antigen is not expressed on chronic lymphoid leukemias (CLL) or lymphomas.13

Clones

The CD15 antibody, clone MMA, is derived from hybridization of P3-X63-Ag8.653 mouse myeloma cells with spleen cells from BALB/c mice immunized with the U-937 histiocytic cell line.

The CD34 (Anti–HPCA-2) antibody, clone 8G12, is derived from hybridization of Sp2/0-Ag14 mouse cells with spleen cells of BALB/c mice immunized with the human cell line KG-1a.11

Composition

The CD15 antibody is composed of mouse IgM heavy chains and kappa light chains.

The CD34 (Anti–HPCA-2) antibody is composed of mouse IgG1 heavy chains and kappa light chains.

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The BD Oncomark™ CD15/CD34 reagent is supplied as a combination of CD15 FITC and CD34 PE in 1mL of phosphate-buffered saline (PBS) containing gelatin and 0.1% sodium azide.

**PROCEDURE**

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

**CAUTION** Higher levels of nonspecific staining may occur when using ammonium chloride lysis for cell preparation prior to staining compared to staining and then lysing using BD FACS™ lysing solution.

**REPRESENTATIVE DATA**

Performed on bone marrow stained, then lysed using BD FACS lysing solution (Cat. No. 349202).

**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 infection22,23 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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**REFERENCES**


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