RESEARCH APPLICATIONS

This reagent combination can be used to study expression of the CD117\textsuperscript{1-4} and CD15\textsuperscript{1-3} antigens in acute myeloid leukemia (AML). These and other myeloid-associated markers, such as CD13 and CD33\textsuperscript{3,5,6} are often studied in AML\textsuperscript{1-4}. The CD34 antigen is also frequently expressed in these cases. The addition of CD45, in conjunction with side scatter, might be useful as a gating aid for blast identification\textsuperscript{7-10}.

DESCRIPTION

Specificity

The CD15 antibody recognizes the human myelomonocytic antigen lacto-N-fucopentose III\textsuperscript{11}.

The CD117 antibody binds to the receptor for stem cell factor (SCF).\textsuperscript{12-18} It selectively recognizes NIH-3T3 cells transfected with human c-kit, the gene that codes for SCF-R.

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\textsuperscript{19}.

The CD117 antigen (SCF-R) is expressed primarily on hematopoietic progenitor cells\textsuperscript{12-17} in the bone marrow. The receptor is highly expressed at similar levels on primitive, erythroid, and granulomonocytic CD34\textsuperscript{+} cell subsets, whereas B-lymphoid-committed progenitor cells (CD34\textsuperscript{+}CD19\textsuperscript{+}) express low levels of SCF-R.\textsuperscript{17} Among CD34\textsuperscript{+} bone marrow cells, only a small number of cells (mostly erythroid) express the receptor\textsuperscript{17}.

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 CD117 antibody, clone 104D2, is derived from fusion of Sp2/0 myeloma cells with splenocytes from BALB/c mice immunized with the megakaryocytic cell line MOLM-1.\textsuperscript{20,21}

Composition

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

The CD117 antibody is composed of mouse IgG\textsubscript{1} heavy chains and kappa light chains.

The BD Oncomark CD15/CD117 reagent is supplied as a combination of CD15 FITC and CD117 PE in 1 mL 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.

REPRESENTATIVE DATA

Performed on bone marrow stained, then lysed using BD FACS\textsuperscript{TM} lysing solution (Cat. No. 349202).

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