RESEARCH APPLICATIONS

Research applications include:

This combination of reagents can be useful in studying normal and abnormal plasma cells.1-4

Plasma cells are usually CD38 bright.5 The CD56 vs. CD19 phenotype of the CD38 bright cells might be different in various types of plasma cell diseases.4,6,7

The addition of CD45 APC might also be useful for further defining plasma cell populations because of the low expression of CD45 on plasma cells.3

DESCRIPTION

Specificity

The CD38 antibody recognizes a 45-kilodalton (kDa) integral membrane glycoprotein, with a protein core of 35 kDa.8

The CD56 (NCAM16.2) antibody recognizes an extracellular immunoglobulin-like domain common to three molecular weight forms (120, 140, and 180 kDa) of the neural cell adhesion molecule (NCAM).9-11

The CD19 (SJ25C1) antibody recognizes a 95-kDa antigen that is present on human B lymphocytes.12,13

Antigen distribution

The CD38 antigen is expressed on essentially all pre-B lymphocytes, plasma cells, and thymocytes.8 It is also present on activated T lymphocytes, natural killer (NK) lymphocytes, and myeloblasts.8,14,15 The antigen is expressed during the early stages of T- and B-lymphocyte differentiation, is lost during the intermediate stages of maturation, and then reappears during the final stages of maturation.8,14 It is also expressed in T- and B-acute lymphoblastic leukemia (ALL), Burkitt’s lymphoma, multiple myeloma, and acute myeloid leukemia (AML).16,17

The CD56 antigen is present on approximately 15% of peripheral blood lymphocytes.18 It is present on essentially all resting and activated CD16+ NK lymphocytes and approximately 5% of CD3+ peripheral blood lymphocytes.18

The CD19 antigen is present on approximately 7–23% of human peripheral blood lymphocytes19 and on splenocytes.20 The CD19 antigen is present on human B lymphocytes at most stages of maturation.13,21 CD19 does not react with resting or activated T lymphocytes, granulocytes, or monocytes.13,21

Clones

The CD38 antibody, clone HB7,14 is derived from hybridization of P3-X63-Ag8.653 mouse myeloma cells with spleen cells from BALB/c mice immunized with the BJAB cell line.

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The CD56 antibody, clone NCAM16.2,22 is derived from the hybridization of P3X-63-Ag8.653 mouse cells with lymph nodes from BALB/c mice immunized with immunoaffinity-enriched adult human brain NCAM.

The CD19 antibody, clone SJ25C1,13 is derived from hybridization of Sp2/0 mouse cells with spleen cells from BALB/c mice immunized with NALM1 + NALM16 cells.

**Composition**

The CD38 and CD19 antibodies are each composed of mouse IgG1 heavy chains and kappa light chains.

The CD56 antibody is composed of mouse IgG2b heavy chains and kappa light chains.

The BD Oncomark™ CD38/CD56/CD19 reagent is supplied as a combination of CD38 FITC, CD56 PE (≥95% 1:1 PE:mAb ratio), and CD19 PerCP-Cy™5.5 in 1 mL of phosphate-buffered saline (PBS) containing 0.3% bovine serum albumin (BSA), 0.2% Lactoglobulin and 0.1% sodium azide.

**PROCEDURE**

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

**REPRESENTATIVE DATA**

Performed on whole blood stained and lysed using BD FACS lysing™ solution (Cat. No. 349202).

**Figure 1** Representative data analyzed with a BD FACSTM brand 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 infection23,24 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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