

Monoclonal
Antibodies
Detecting
Human
Antigens



BD Oncomark™

FMC7/CD23/CD19

Catalog No. 341148 50 Tests 20 µL/test

Not for sale in the US.

RESEARCH APPLICATIONS

This combination of reagents can be useful in studying normal and abnormal subsets of B lymphocytes. The reagents detect expression of the FMC7 and CD23 antigens on normal and abnormal B cells.¹⁻⁸ The FMC7 antigen is present in a subset of normal B lymphocytes, but is weak or undetectable in chronic lymphocytic leukemia (CLL).^{4,6,9} The CD23 antigen is not usually present in mantle cell lymphoma,^{1,4,6} but might be present in other B-cell neoplasms such as B-cell CLL and small lymphocytic lymphomas.^{1,8} Other reagents that might be useful for characterization of B-cell diseases include CD5, CD10, CD11c, CD20, CD22, and CD103.¹⁰⁻¹⁵ These reagents, in various combinations, allow the delineation of B-cell neoplasias.

DESCRIPTION

Specificity

The FCM7 antibody recognizes a 105-kilodalton (kDa) membrane glycoprotein expressed on a subset of B lymphocytes.¹⁶

The CD23 antibody recognizes a human B-lymphocyte differentiation antigen, with a molecular weight of 45 kDa, that is the low-affinity Fc epsilon receptor.¹⁷⁻²⁰

The CD19 (SJ25C1) antibody recognizes a 90-kDa antigen that is present on human B lymphocytes.^{21,22}

Antigen distribution

More than 50% of the peripheral B lymphocytes of normal adults carry FMC7 antigen at variable density. FMC7-positive B cells are more mature and they are the subpopulation that responds in vitro to mitogens or antigens.^{16,23} The FMC7 antigen is found on B-cell malignancies of most differentiated stages, such as mantle cell lymphoma (MCL), follicular lymphoma, and hairy-cell leukemias, but not in most cases of CLL.^{3,6,12,24,25}

The CD23 antigen is present at low density on most normal B lymphocytes²⁶ and at higher levels on activated B lymphocytes, Epstein-Barr virus (EBV)-transformed lymphoblasts, CLL cells of B-lymphocyte origin, and tonsillar B lymphocytes.²⁰

The CD23 antigen density increases on the surface of B lymphocytes shortly after activation.²⁷ The antigen is lost after isotype switching to IgA, IgG, or IgE.^{19,28} The CD23 antigen is not present on immature bone marrow B lymphocytes or on T lymphocytes,¹⁹ but it has been reported on monocytes, hypodense eosinophils, and a subpopulation of platelets.²⁹

The CD19 antigen is present on approximately 7–23% of human peripheral blood lymphocytes³⁰ and on splenocytes.³¹ The CD19 antigen is present on human B lymphocytes at most stages of maturation.^{22, 32} CD19 does not react with resting or activated T lymphocytes, granulocytes, or monocytes.^{22,32}

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

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Clones Clone FMC7,¹⁶ is generated from the fusion of P3-NS1-1-AG4-1 mouse myeloma cells with spleen cells from BALB/c mice immunized with human B-lymphoblastoid cell line HRIK.

The CD23 antibody, clone EBVCS-5,³³ is derived from hybridization of Sp2/0 mouse myeloma cells with spleen cells from BALB/c mice immunized with in vitro-transformed EBV cell line.

The CD19 antibody, clone SJ25C1,²² is derived from hybridization of Sp2/0 mouse cells with spleen cells from BALB/c mice immunized with NALM1 + NALM16 cells.

Composition

The FMC7 antibody is composed of mouse IgM heavy chains and kappa light chains. The CD23 and CD19 antibodies are each composed of mouse IgG₁ heavy chains and kappa light chains.

The BD Oncomark™ FMC7/CD23/CD19 reagent is supplied as a combination of FMC7 FITC, CD23 PE (95% 1:1 PE:mAb ratio), and CD19 PerCP-Cy™5.5 in 1 mL of phosphate-buffered saline (PBS) with 0.1% sodium azide.

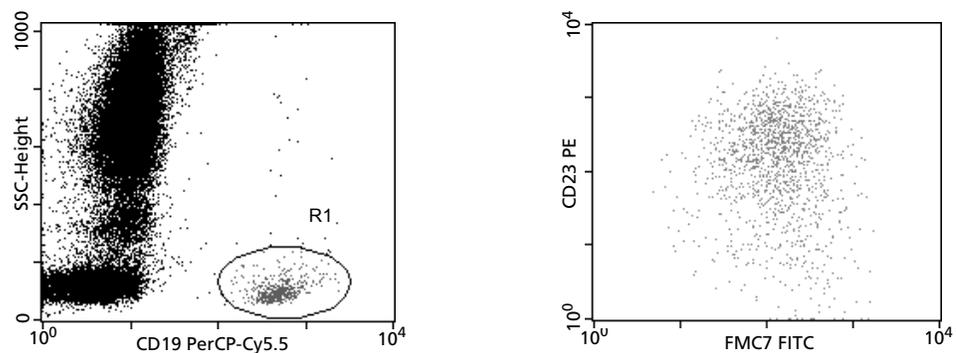
PROCEDURE

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

REPRESENTATIVE DATA

Flow cytometric analysis was performed on whole blood stained and lysed using BD FACS™ lysing solution (Cat. No. 349202).

Figure 1 Representative data analyzed with a BD FACS™ 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 infection^{34,35} 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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