BD Oncomark™

CD103/CD22/CD20

Catalog No. 341122  50 Tests  20 μL/test  Not for sale in the US.

APPLICATIONS

This combination of reagents can be useful for the study of normal and abnormal subsets of B lymphocytes. The reagents detect expression of the CD103, CD22, and CD20 antigens. These antigens are highly expressed in the abnormal cells of hairy cell leukemia. A subset of normal B cells expressing CD103 has been identified in peripheral blood. Expression levels of FMC7, CD11c, CD23, and CD25 might also be useful in the study of hairy cell leukemia and other B-lymphoproliferative disorders.

Specificity

CD103 recognizes the αE subunit of integrin αEβ7, an integrin also known as the human mucosa lymphocyte (HML) antigen but not α4, another member of the β7 integrin subfamily. Integrin αEβ7 is a trimeric protein complex of three components, 105 kilodaltons (kDa) (β7), 150 kDa, and 25 kDa. The CD103 epitope is localized on the 150-kDa chain.

CD22 recognizes a human B-lymphocyte antigen with a molecular weight of 135 kDa.

The CD20 antigen is a phosphoprotein with a molecular weight of 35 or 37 kDa depending on the degree of phosphorylation. The antigen is not glycosylated.

Antigen distribution

The CD103 antigen is expressed on the surface of >90% of intestinal intraepithelial lymphocytes (iIEL), 40% of intestinal lamina propria T lymphocytes, and <3% of resting peripheral blood lymphocytes.

The CD22 antigen is expressed in the cytoplasm of all B lymphocytes and is only present on the cell surface of mature B lymphocytes. In contrast with the CD10, CD19, and CD20 antigens, the CD22 antigen is still present on lymphoplasmyctoid cells but is diminished on the fully matured plasma cell. The CD22 antigen is expressed in most B-cell leukemias, including hairy-cell leukemia, and nearly all (97%) B-cell lymphomas, but not in T-cell leukemias or T-cell lymphomas. Antigen density is markedly increased in hairy-cell leukemia.

The CD20 antigen is expressed on B lymphocytes synchronous with the expression of surface IgM. The antigen is present on both resting and activated B lymphocytes but is lost prior to differentiation into plasma cells. The CD20 antigen is found in both mantle-zone and germinal center areas of secondary follicles of lymphoid tissue and can be expressed on follicular dendritic cells (FDC) in germinal centers. Low-level expression of the CD20 antigen has been detected on a subpopulation of T lymphocytes.

Clones

CD103, clone Ber-ACT 8, is derived from hybridization of spleen cells from BALB/c mice immunized with HTLV-1 positive cell line (MAPS16).

CD22, clone S-HCL-1, is derived from hybridization of NS-1 mouse myeloma cells with spleen cells from CD-1 mice immunized with whole cells and membrane preparations of hairy-cell leukemia cells.

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CD20, clone L27, is derived from hybridization of Sp2/0 mouse myeloma cells with spleen cells from BALB/c mice immunized with the LB lymphoblastoid cell line.

**Composition**

CD103 and CD20 are each composed of mouse IgG1 heavy chains and kappa light chains.

CD22 is composed of mouse IgG2b heavy chains and kappa light chains.

The BD Oncomark™ CD103/CD22/CD20 reagent is supplied as a combination of CD103 FITC, CD22 PE, and CD20 PerCP-Cy5.5 in 1 mL of phosphate-buffered saline (PBS) containing bovine serum albumin (BSA) 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 abnormal bone marrow stained and lysed using BD FACS™ Lysing Solution (Cat. No. 349202).

*Figure 1* Analyzed on a BD FACS™ brand flow cytometer

**HANDLING AND STORAGE**

Store vials at 2–8°C. Do not freeze reagents; protect them from prolonged exposure to light. Each reagent is stable for the period 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 infection20,21 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.

**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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**CHARACTERIZATION**

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

**REFERENCES**


**PATENTS AND TRADEMARKS**

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