

Monoclonal Antibodies Detecting Human Antigens

FMC7

Form	Catalog number
FITC	340919
V450	644493

Product availability varies by region. Contact BD Biosciences Customer Support or your local sales representative for information.

RESEARCH APPLICATIONS

Research applications include studies of B-lymphocyte:

- Neoplasms^{1,2}
- Differentiation in bone marrow^{3,4}

DESCRIPTION

Specificity

The FMC7 antibody recognizes a 105-kilodalton (kDa) membrane glycoprotein expressed on a subset of B lymphocytes.⁵

Antigen distribution

More than 50% of the peripheral B lymphocytes of normal adults carry the FMC7 antigen at variable density. FMC7-positive B cells are more mature, and they include the subpopulation that responds in vitro to mitogens or antigens.⁵⁻⁷ The FMC7 antigen is found on B-cell malignancies of most differentiated stages, such as mantle cell lymphoma, but not in most cases of chronic lymphocytic leukemia (CLL).⁸⁻¹⁰

Clone

Clone FMC7 is derived 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.⁵

Composition

The FMC7 antibody is composed of mouse IgM heavy chains and kappa light chains.

Product configuration

The following reagents are supplied in phosphate buffered saline (PBS) containing a stabilizer and a preservative.

Form	Number of tests	Volume per test (μL) ^a	Amount provided (μg)	Total volume (mL)	Concentration (μg/mL)	Stabilizer	Preservative
FITC	50	20	25	1.0	25	Gelatin	0.1% Sodium azide
V450 ^b	100	5	50	0.5	100	Gelatin	0.1% Sodium azide

a. Volume required to stain 10⁶ cells.

b. Supplied in HEPES buffer, BD Horizon™ V450

CAUTION Prolonged exposure of cells to paraformaldehyde can lead to increased autofluorescence in the violet channels. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

PROCEDURE

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

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

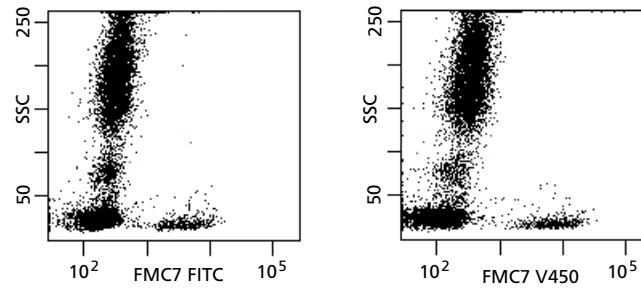
Becton, Dickinson and Company
BD Biosciences
2350 Qume Drive
San Jose, CA 95131 USA



REPRESENTATIVE DATA

Flow cytometric analysis was performed on whole blood. Laser excitation was at 405 nm and 488 nm.

Figure 1 Representative data analyzed with a BD FACST[™] 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^{11,12} 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.

THE PRODUCTS SOLD HEREUNDER ARE WARRANTED ONLY TO CONFORM TO THE QUANTITY AND CONTENTS STATED ON THE LABEL OR IN THE PRODUCT LABELING AT THE TIME OF DELIVERY TO THE CUSTOMER. BD DISCLAIMS HEREBY ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE AND NONINFRINGEMENT. BD'S SOLE LIABILITY IS LIMITED TO EITHER REPLACEMENT OF THE PRODUCTS OR REFUND OF THE PURCHASE PRICE. BD IS NOT LIABLE FOR PROPERTY DAMAGE OR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING PERSONAL INJURY, OR ECONOMIC LOSS, CAUSED BY THE PRODUCT.

REFERENCES

1. Catovsky D, Brooks CD, Bradley J, Zola H. Heterogeneity of B-cell leukemias demonstrated by the monoclonal antibody FMC7. *Blood*. 1981;58:406-408.
2. Geisler CH, Larsen JK, E HN, et al. Prognostic importance of flow cytometric immunophenotyping of 540 consecutive patients with B-cell chronic lymphocytic leukemia. *Blood*. 1991;78:1795-1802.
3. Ferro LM, Zola H. Modulation of expression of the antigen identified by FMC7 upon human B-lymphocyte activation: evidence for differences between activation in vivo and in vitro. *Immunology*. 1990;69:373-378.
4. Rijkers GT, Dollekamp I, Zegers BJM. Evidence that FMC7 is a human B cell differentiation antigen. *Immunol Lett*. 1990;24:261-264.
5. Brooks DA, Beckman IG, Bradley J, McNamara PJ, Thomas ME, Zola H. Human lymphocyte markers defined by antibodies derived from somatic cell hybrids. IV. A monoclonal antibody reacting specifically with a subpopulation of human B lymphocytes. *J Immunol*. 1981;126:1373-1377.
6. Bloem AC, Chand MA, Dollekamp I, Rijkers GT. Functional properties of human B cell subpopulations defined by monoclonal antibodies HB4 and FMC7. *J Immunol*. 1988;140:768-773.
7. Staal F, Rozemuller E, Gmelig Meyling FHJ, Bloem AC. Functional human B-cell subpopulations in neonates and adults defined on the basis of FMC7 and CD5 expression. In: Knapp W, Dörken B, Gilks WR, et al., eds. *Leucocyte Typing IV: White Cell Differentiation Antigens*. New York, NY: Oxford University Press; 1989:139-140.

8. Huh YO, Pugh WC, Kantarjian HM, et al. Detection of subgroups of chronic B-cell leukemias by FMC7 monoclonal antibody. *Am J Clin Pathol*. 1994;101:283-289.
9. Kilo MN, Dorfman DM. The utility of flow cytometric immunophenotypic analysis in the distinction of small lymphocytic lymphoma/chronic lymphocytic leukemia from mantle cell lymphoma. *Am J Clin Pathol*. 1996;105:451-457.
10. Zola H, Neoh SH, Potter A, Melo JV, De Oliveria MS, Catovsky D. Markers of differentiated B cell leukaemia: CD22 antibodies and FMC7 react with different molecules. *Dis Markers*. 1987;5:227-235.
11. *Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline — Third Edition*. Wayne, PA: Clinical and Laboratory Standards Institute; 2005. CLSI document M29-A3.
12. Centers for Disease Control. Perspectives in disease prevention and health promotion update: universal precautions for prevention of transmission of human immunodeficiency virus, hepatitis B virus, and other bloodborne pathogens in health-care settings. *MMWR*. 1988;37:377-388.

**PATENTS AND
TRADEMARKS**

BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2014 BD