

BD CD2 (S5.2)

Monoclonal Antibodies Detecting Human Antigens

Form	Catalog number
Pure	347590
FITC	347593
PE	347597
V450	644485

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

Research Applications

Research applications include:

- Enumeration of CD2⁺ cells in peripheral blood
- Analysis of natural killer (NK) lymphocyte subsets¹
- Study of dendritic cells²

Description

Specificity

The CD2 antibody recognizes a human lymphocyte antigen, 45 to 50 kilodaltons (kDa),³ which also forms the binding site for sheep erythrocytes.⁴

Antigen distribution

The CD2 antigen is present on approximately 75% of normal peripheral blood lymphocytes and 95% to 99% of thymocytes.⁴ It is also found on a subset of monocytes (approximately one-third) that might be precursors to dendritic cells.⁵ The CD2 antibody reacts with essentially all T lymphocytes and with a subset of NK lymphocytes.¹ CD2 and CD58 have been shown to be co-receptors. The interaction of CD2 antigen and CD58 antigen facilitates antigen recognition by T lymphocytes.⁶⁻⁸

Clone

The CD2 antibody, clone S5.2,⁹ is derived from hybridization of Sp2/0 mouse myeloma cells with spleen cells from BALB/c mice immunized with T lymphocytes activated by mixed lymphocyte culture.

Composition

The CD2 antibody is composed of mouse IgG_{2a} heavy chains and kappa light chains.

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

Product configuration

The following are supplied in buffer containing a stabilizer and a preservative.

Form	Number of tests	Volume per test (μL)	Amount provided (μg)	Total volume (mL)	Concentration (μg/mL)	Stabilizer	Preservative
Pure	100	20	25	2	12.5	Gelatin	0.1% Sodium azide
FITC	100	20	25	2	12.5	Gelatin	0.1% Sodium azide
PE	100	20	12.5	2	6.25	Gelatin	0.1% Sodium azide
V450 ^a	100	5	25	0.5	50	Gelatin	0.1% Sodium azide

^a BD Horizon™ V450

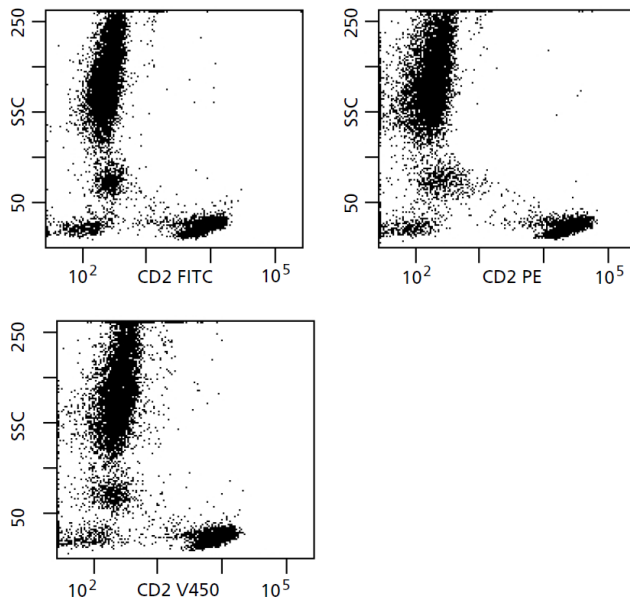
CAUTION Prolonged exposure of cells to paraformaldehyde can lead to increased autofluorescence in the violet channels. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

Procedure

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

Representative Data

Flow cytometric analysis was performed on whole blood stained with the indicated conjugated antibody. Laser excitation was at 405 nm, 488 nm, and 635 nm. Representative data analyzed with a BD flow cytometer is shown in the following figure.



Handling and Storage

Store vials at 2–8 °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^{10,11} 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.

Go to regdocs.bd.com to download the Safety Data Sheet.

Characterization

To ensure consistently high-quality reagents, each lot of antibody is tested for conformance with characteristics of a standard reagent.

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. Lanier LL, Phillips JH. A map of the cell surface antigens expressed on resting and activated human natural killer cells. In: Reinherz EL, Haynes BF, Nadler LM, Bernstein ID, eds. *Leukocyte Typing II: Human Myeloid and Hematopoietic Cells*. Vol 3. New York, NY: Springer-Verlag; 1986:157-170.
2. MacDonald KPA, Munster DJ, Clark GJ, Dzionek A, Schmitz J, Hart DNJ. Characterization of human blood dendritic cell subsets. *Blood*. 2002;100:4512-4520.
3. Bieber CP, Howard FD, Pennock J, Wong J, Shorthouse R, Stinson EB. Preparation, characterization, and primate testing of monoclonal antithymocyte globulin. *Transplantation*. 1981;31:283-289.
4. Howard FD, Ledbetter JA, Wong J, Bieber CP, Stinson EB, Herzenberg LA. A human T lymphocyte differentiation marker defined by monoclonal antibodies that block E-rosette formation. *J Immunol*. 1981;126:2117-2122.
5. Crawford K, Gabuzda D, Pantazopoulos V, et al. Circulating CD2⁺ monocytes are dendritic cells. *J Immunol*. 1999;163:5920-5928.
6. Bierer BE, Peterson A, Gorga JC, Herrmann SH, Burakoff SJ. Synergistic T-cell activation via the physiological ligands for CD2 and the T-cell receptor. *J Exp Med*. 1988;168:1145-1156.
7. Moingeon P, Chang H, Wallner BP, Stebbins C, Frey AZ, Reinherz EL. CD2-mediated adhesion facilitates T-lymphocyte antigen-recognition function. *Nature*. 1989;339:312-314.
8. Koyasu S, Lawton T, Novick D, et al. Role of interaction of CD2 molecules with lymphocyte function-associated antigen 3 in T-cell recognition of nominal antigen. *Proc Natl Acad Sci USA*. 1990;87:2603-2607.

9. Haynes BF. Summary of T-cell studies performed during the Second International Workshop and Conference on Human Leukocyte Differentiation Antigens. In: Reinherz EL, Haynes BF, Nadler LM, Bernstein ID, eds. *Leukocyte Typing II: Human T Lymphocytes*. Vol 1. New York, NY: Springer-Verlag; 1986:3-30.
10. *Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline—Fourth Edition*. Wayne, PA: Clinical and Laboratory Standards Institute; 2014. CLSI document M29-A4.
11. Centers for Disease Control and Prevention. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.
<https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html>. Accessed March 12, 2019.

Patents and Trademarks

For US patents that may apply, see bd.com/patents.

BD, the BD Logo and Horizon are trademarks of Becton, Dickinson and Company or its affiliates. All other trademarks are the property of their respective owners. © 2024 BD. All rights reserved.

Contact Information

Becton, Dickinson and Company

BD Biosciences

155 North McCarthy Boulevard

Milpitas, California 95035 USA

bdbiosciences.com

ResearchApplications@bd.com