Monoclonal Antibodies Detecting Human Antigens

CD3 (SK7)

Form	Catalog number	Form	Catalog number	Form	Catalog number
Pure	347340	APC	340440	V450	652355
PE	347347	APC-R700	659119	V500-C	647453
PerCP-Cy5.5	340949	APC-Cy7	341090		
PerCP	347344	APC-H7	641397		
PE-Cy7	341091	AmCyan	339186		

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

RESEARCH APPLICATIONS

Research applications include:

- Study of in vitro activation of T lymphocytes[1]
- Examination of the CD3 complex in relation to the T-cell receptor (TCR)[2]
- Enumeration of T lymphocytes and T-lymphocyte subsets in peripheral blood[3,4]
- Investigation into the cytokine response[5,6]
- Research on the immune response[7,8]

DESCRIPTION

Specificity

The CD3 antibody reacts with the epsilon chain of the CD3 antigen/TCR complex.[9] This complex is composed of at least six proteins that range in molecular weight from 20 to 30 kilodaltons (kDa).[10] The antigen recognized by CD3 antibodies is noncovalently associated with either α/β or γ/δ TCR (70 to 90 kDa).[11]

Antigen distribution

The CD3 antigen is present on 61% to 85% of normal peripheral blood lymphocytes,[12] 60% to 85% of thymocytes,[13] and on Purkinje cells in the cerebellum.[14]

This antibody has a mitogenic effect on most peripheral blood T lymphocytes, provided appropriate functional monocytes are present.[1]

Clone

The CD3 antibody, clone SK7,[15,16] is derived from the hybridization of NS-1 mouse myeloma cells with spleen cells isolated from BALB/c mice immunized with human thymocytes.

Composition

The CD3 antibody is composed of mouse IgG_1 heavy chains and kappa light chains.

Product configuration

The following 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
Pure	100	20	12.5	2	6.25	Gelatin	0.1% Sodium azide
PE	100	20	25	2	12.5	Gelatin	0.1% Sodium azide
PerCP-Cy™5.5	50	20	3	1	3	Gelatin	0.1% Sodium azide
PerCP	100	20	25	2	12.5	Gelatin	0.1% Sodium azide
PE-Cy™7	100	5	12.5	0.5	25	Gelatin	0.1% Sodium azide
APC	100	5	25	0.5	50	Gelatin	0.1% Sodium azide

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

bdbiosciences.com
ResearchApplications@bd.com

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Form	Number of tests	Volume per test (µL)[a]	Amount provided (µg)	Total volume (mL)	Concentration (µg/mL)	Stabilizer	Preservative
APC-R700[b]	100	5	12.5	0.5	25	BSA	ProClin® 300
APC-Cy7	100	5	12.5	0.5	25	Gelatin	0.1% Sodium azide
APC-H7	100	5	50	0.5	100	BSA	ProClin 300
AmCyan	100	5	50	0.5	100	BSA	0.1% Sodium azide
V450[b]	100	5	25	0.5	50	Gelatin	0.1% Sodium azide
V500-C[b]	100	5	25	0.5	50	BSA	ProClin® 950

a. Volume required to stain 10^6 cells.
b. BD Horizon™ APC-R700, BD Horizon™ V450, BD Horizon™ V500-C

CAUTION Some APC-Cy7 conjugates, and to a lesser extent PE-Cy7, APC-H7, and APC-R700 conjugates, show changes in their emission spectra with prolonged exposure to paraformaldehyde or light. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

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.

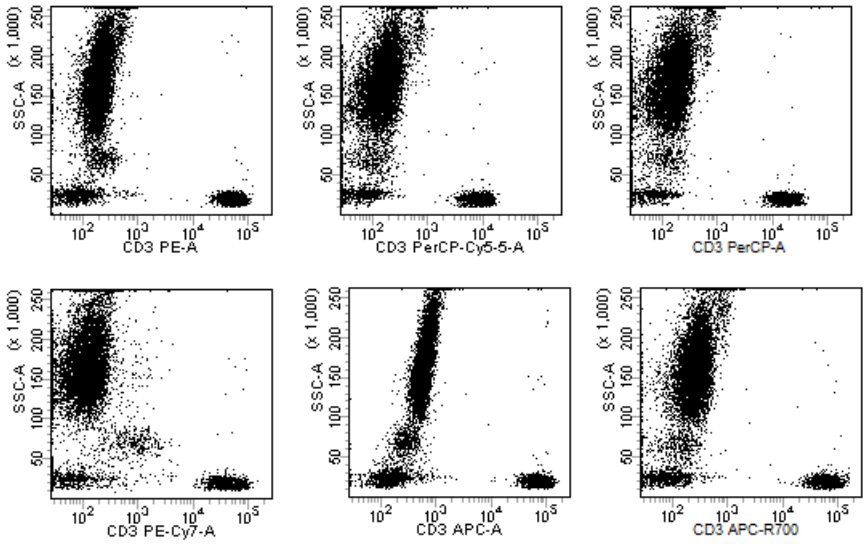
PROCEDURE

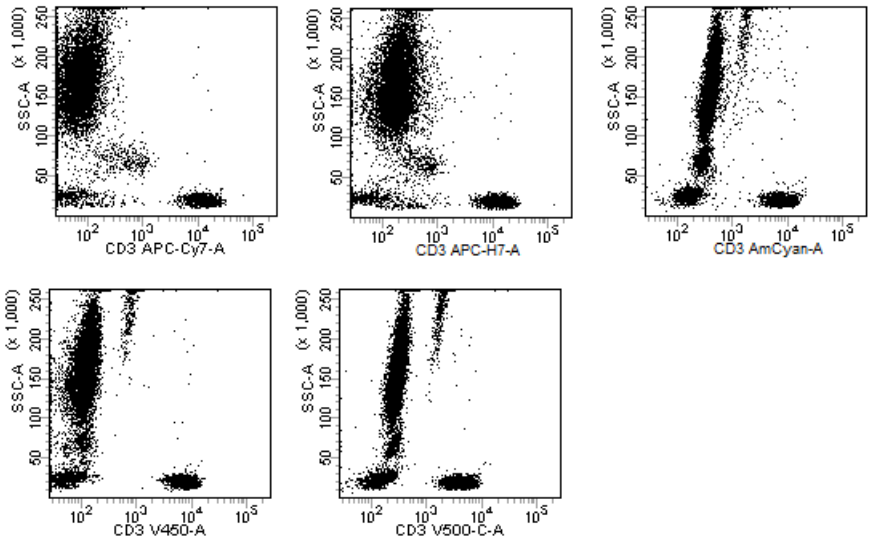
Visit our website (bdbiosciences.com) or contact your local BD representative for the lyse/wash protocol for direct immunofluorescence.

REPRESENTATIVE DATA

Flow cytometric analysis was performed on whole blood stained with the indicated conjugated antibody. Laser excitation was at 405 nm, 488 nm, 635 nm, or 640 nm.

The APC-R700 conjugate is read off the red laser (640 nm) using a 685 longpass mirror with a 712/21 bandpass filter. Representative data analyzed with a BD FACS™ brand flow cytometer is shown in the following plots.





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[17,18] 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.

Some reagents are bottled with ProClin 300, and contain 0.003% of a mixture of CMIT/MIT (3:1), CAS number 55965-84-9.

Warning

H317 May cause an allergic skin reaction.

Wear protective gloves/eye protection. Wear protective clothing. Avoid breathing mist/vapours/spray. If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. Dispose of contents/container in accordance with local/regional/national/international regulations.

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.

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PATENTS AND TRADEMARKS

APC-Cy7: US Patent 5,714,386