

BD CD4 (SK3)

Monoclonal Antibodies Detecting Human Antigens

Form	Catalog number	Form	Catalog number
Pure	346320	APC	340443
Biotin	347321	APC-Cy7	341095
PE	347327	APC-H7	641398
PerCP	347324	AmCyan	339187
PerCP-Cy5.5	341654	V500-C	647455
PE-Cy7	348789	V450	651849

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

Research Applications

Research applications include:

- Enumeration and monitoring of the helper/inducer lymphocyte subset in peripheral blood and tissue¹
- Analysis of immunoregulatory lymphocyte subsets involved in helper/inducer functions²
- Characterization of subtypes of T-cell leukemias and lymphomas³
- Human immunodeficiency virus (HIV) infection⁴⁻⁷
- Antigen-specific T-cell response⁸
- Immune function⁹
- T-cell response to cytomegalovirus^{10,11}

Description

Specificity

The CD4 antibody^{12,13} recognizes a 55-kilodalton (kDa)¹ glycoprotein that is present on T-helper/inducer lymphocytes and monocytes.^{14,15}

Antigen distribution

The CD4 antigen is present on the helper/inducer T-lymphocyte subset, such as CD3⁺CD4⁺, that comprises 28% to 58%¹⁶ of normal peripheral blood lymphocytes.^{1,15} It is also present on 80% to 95% of normal thymocytes.^{1,15} The CD4 antigen is present in low density on the cell surface of monocytes and in the cytoplasm of monocytes and macrophages (CD3⁻CD4⁺).¹⁷

The CD4 antigen participates in recognizing foreign antigens in association with MHC Class II molecules by T cells.¹⁸ CD4 associates with the kinase, p56^{lck}, and when crosslinked by antibody, activates the kinase.^{19,20} The CD4 antigen is the receptor for HIV.^{4,21,22} Some CD4 antibodies, including CD4 clone SK3, inhibit HIV binding to CD4⁺ cells.⁷

Clone

The CD4 antibody, clone SK3,¹² is derived from the hybridization of NS-1 mouse myeloma cells with spleen cells from BALB/c mice immunized with human peripheral blood T lymphocytes.

Composition

The CD4 antibody is composed of mouse IgG₁ 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	200	20	100.0	4.0	25.0	Gelatin	0.1% Sodium azide
Biotin	100	20	6.0	2.0	3.0	Gelatin	0.1% Sodium azide
PE	100	20	6.2	2.0	3.1	Gelatin	0.1% Sodium azide
PerCP	100	20	6.4	2.0	3.2	Gelatin	0.1% Sodium azide
PerCP-Cy 5.5	50	20	1.5	1.0	1.5	Gelatin	0.1% Sodium azide
PE-Cy7	100	5	6.0	0.5	12.0	Gelatin	0.1% Sodium azide
APC	100	5	3.0	0.5	6.0	Gelatin	0.1% Sodium azide
APC-Cy7	100	5	6.0	0.5	12.0	Gelatin	0.1% Sodium azide
APC-H7	100	5	6.0	0.5	12.0	Gelatin	0.1% Sodium azide
AmCyan	100	5	3.0	0.5	6.0	BSA	0.1% Sodium azide
V500-C ^a	100	5	3.0	0.5	6.0	BSA	MIT
V450 ^a	100	5	6.5	0.5	13.0	Gelatin	0.1% Sodium azide

^a BD Horizon™ V500-C, BD Horizon™ V450

CAUTION Some APC-Cy7 conjugates, and to a lesser extent PE-Cy7 and APC-H7 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.

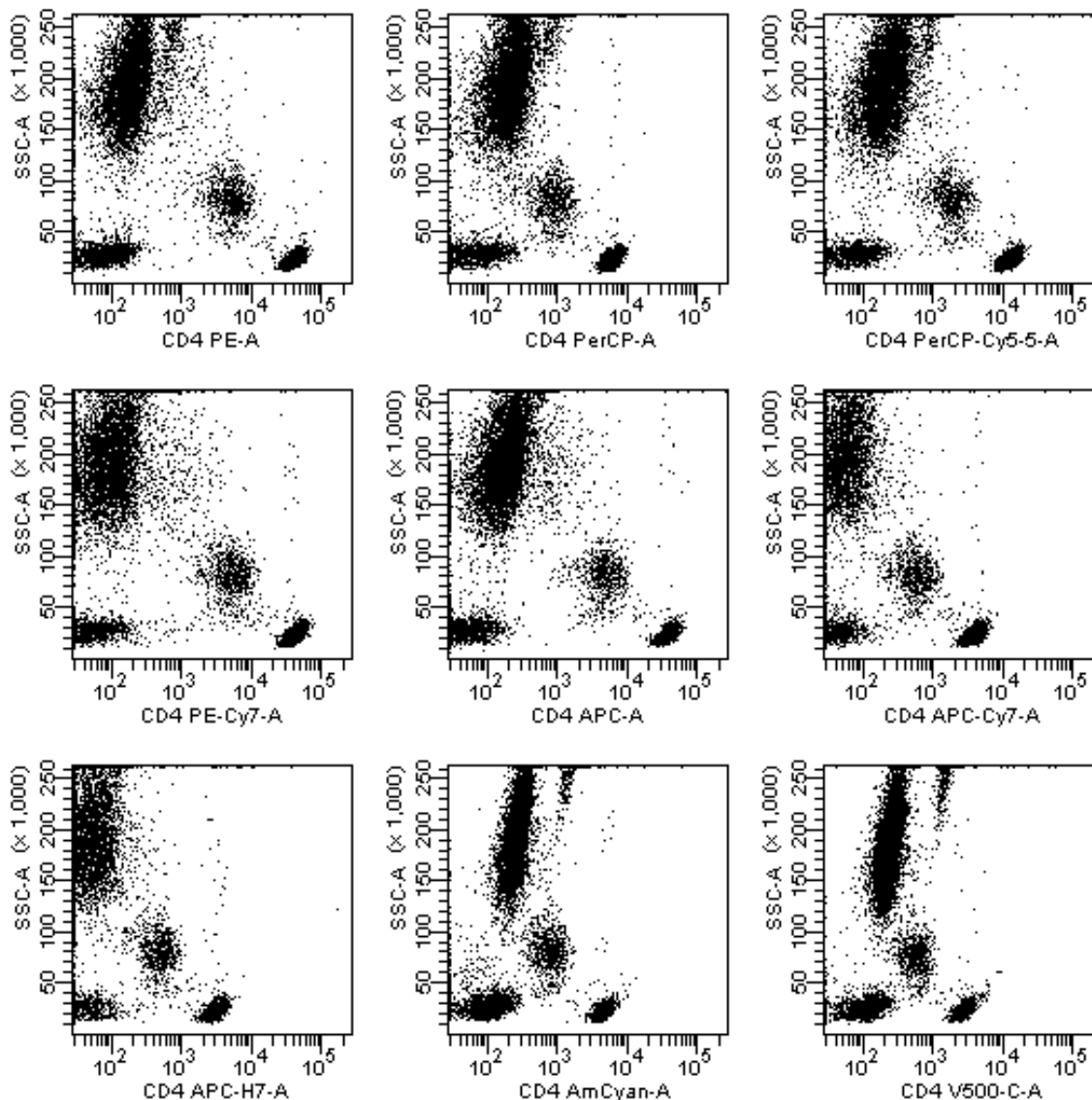
CAUTION Prolonged exposure of cells to paraformaldehyde can lead to increased autofluorescence in the violet channels. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

Procedure

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, or 635 nm. Representative data analyzed with a BD flow cytometer is shown in the following plots.




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^{23,24} 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.

The V500-C conjugate contains 0.0091% 2-methyl-4-isothiazolin-3-one (MIT), CAS number 2682-20-4. The AmCyan conjugate contains 0.3958% ethylenediamine, ethoxylated and propoxylated, CAS number 26316-40-5. These reagents are classified as hazardous according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

	Warning
	H317: May cause an allergic skin reaction.
Prevention	P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P272: Contaminated work clothing should not be allowed out of the workplace. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response	P302+P352: IF ON SKIN: Wash with plenty of water. P333+P313: If skin irritation or rash occurs: Get medical advice/attention. P362+P364: Take off contaminated clothing and wash it before reuse.
Disposal	P501: Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

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.

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