BD CD8 (SK1)

Monoclonal Antibodies Detecting Human Antigens

Form	Catalog number	Form	Catalog number
Pure	346310	APC	340584
FITC	347313	APC-Cy7	348793
PerCP	347314	APC-H7	641400
PerCP-Cy5.5	341051	AmCyan	339188
PE-Cy7	335787	V500-C	647457

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

Research Applications

Research applications include studies of:

- Enumeration and monitoring of the T-suppressor/cytotoxic subset in peripheral blood[1-3]
- Analysis of cell-mediated cytotoxicity[4]
- Analysis of immunoregulation and T-lymphocyte-mediated suppression[5,6]
- Natural killer (NK)-lymphocyte subsets[7]
- Immune function in cancer research[8]
- T-cell response to cytomegalovirus[9-11]

Description

Specificity

The CD8 antibody recognizes the 32-kilodalton (kDa) α-subunit of a disulfide-linked bimolecular complex.[12,13] The majority of peripheral blood $CD8^+$ T lymphocytes express an α/β heterodimer (32, 30 kDa), while $CD8^+CD16^+$ NK lymphocytes and $CD8^+$ T-cell receptor (TCR)-γ/δ^+ T lymphocytes express an α/α homodimer (30 kDa). $CD8^+$TCR-α/β^+ T lymphocytes can express either an α/α homodimer or α/β heterodimer.[12,13] The CD8 antigenic determinant binds to class I major histocompatibility complex (MHC) molecules, resulting in increased adhesion between the $CD8^+$ T lymphocytes and target cells.[14-16] Binding of the CD8 antigen to class I MHC molecules enhances the activation of resting T lymphocytes.[14-17] The CD8 antigen is coupled to a protein tyrosine kinase, $p56^{lck}$. The CD8:$p56^{lck}$ complex can play a role in T-lymphocyte activation through mediation of the interactions between the CD8 antigen and the CD3/TCR complex.[16,17]

Antigen distribution

The CD8 antigen is present on the human suppressor/cytotoxic T-lymphocyte subset[2-5,18,19] as well as on a subset of NK lymphocytes.[6] The CD8 antigen is expressed on 19% to 48% of normal peripheral blood lymphocytes[20] and 60% to 85% of normal thymocytes.[2,4] The $CD8^+$ T- and NK-lymphocyte subsets can be further subdivided into the following groups: $CD16^+$ NK lymphocytes that can express the CD8 antigen in low density;[6] $CD57^+$ T lymphocytes that express high-density CD8 antigen;[6] and $CD8^+CD62L^+$ lymphocytes that collaborate with $CD8^+CD62L^-$ lymphocytes to generate suppression of B-lymphocyte function.[1] CD8 cross-reacts with lymphocytes of some nonhuman primate species.[21]

Clone

The CD8 antibody, clone SK1,[22] is derived from hybridization of NS-1 mouse myeloma cells with spleen cells from BALB/c mice immunized with human peripheral blood T lymphocytes.

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

Composition

The CD8 antibody is composed of mouse IgG_1 heavy chains and kappa light chains.

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	50	4.0	12.5	Gelatin	0.1% Sodium azide
FITC	100	20	25	2.0	12.5	Gelatin	0.1% Sodium azide
PerCP	100	20	12	2.0	6	Gelatin	0.1% Sodium azide
PerCP-Cy5.5	50	20	5	1.0	5	Gelatin	0.1% Sodium azide
PE-Cy7	100	5	25	0.5	50	Gelatin	0.1% Sodium azide
APC	100	5	25	0.5	50	Gelatin	0.1% Sodium azide
APC-Cy7	100	5	25	0.5	50	Gelatin	0.1% Sodium azide
APC-H7	100	5	25	0.5	50	Gelatin	0.1% Sodium azide
AmCyan	100	5	50	0.5	100	BSA	0.1% Sodium azide
V500-C[a]	100	5	25	0.5	50	BSA	MIT

[a] BD Horizon™ V500-C

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.

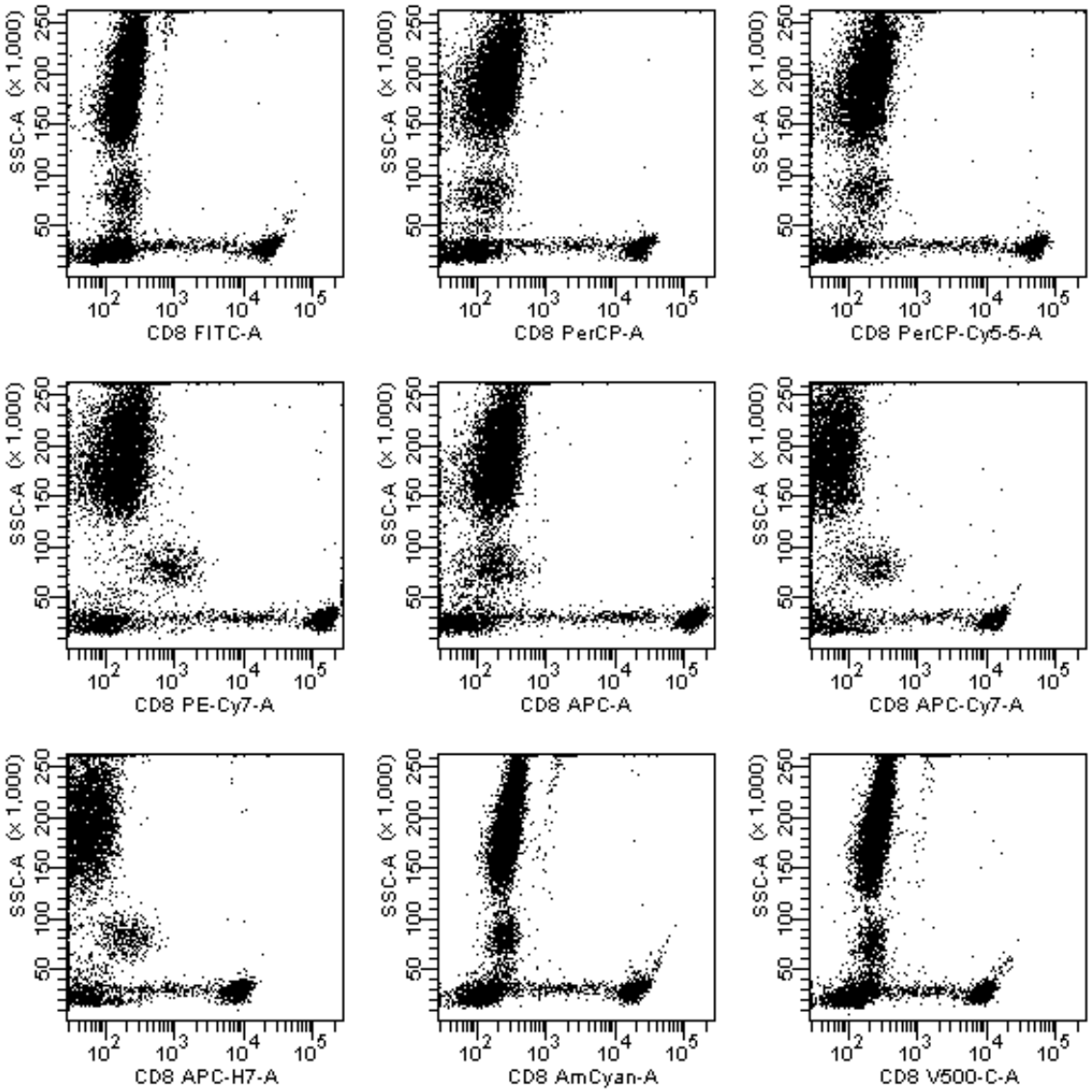
CAUTION Prolonged exposure of cells to paraformaldehyde can lead to increased autofluorescence in the violet channels. For overnight storage of stained cells, wash and resuspend in buffer without paraformaldehyde after 1 hour of fixation.

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 0.008% 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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