CD8 (SK1)

FORMS

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DESCRIPTION

Specificity

The CD8 antibody recognizes the 32-kilodalton (kDa) α-subunit of a disulfide-linked bimolecular complex. The majority of peripheral blood CD8⁺ T lymphocytes expresses an α/β heterodimer (32, 30 kDa), while CD8⁺CD16⁺ natural killer (NK) lymphocytes and CD8⁺ T-cell receptor (TCR)-γδ⁺ 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. The CD8 antigenic determinant binds to class I major histocompatibility (MHC) molecules, resulting in increased adhesion between the CD8⁺ T lymphocytes and target cells. Binding of the CD8 antigen to class I MHC molecules enhances the activation of resting T lymphocytes. The CD8 antigen is coupled to a protein tyrosine kinase, p56lck. The CD8:p56lck complex can play a role in T-lymphocyte activation through mediation of the interactions between the CD8 antigen and the CD3/TCR complex.

Antigen distribution

The CD8 antigen is present on the human suppressor/cytotoxic T-lymphocyte subset as well as on a subset of NK lymphocytes. The CD8 antigen is expressed on 19% to 48% of normal peripheral blood lymphocytes and 60% to 85% of normal thymocytes. 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; CD57⁺ T lymphocytes that express high-density CD8 antigen; and CD8⁺CD62L⁺ lymphocytes that collaborate with CD8⁺CD62L⁻ lymphocytes to generate suppression of B-lymphocyte function. CD8 cross-reacts with lymphocytes of some nonhuman primate species.

Clone

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

Composition

The CD8 antibody is composed of mouse IgG₁ heavy chains and kappa light chains.

Analyte Specific Reagent. Analytical and performance characteristics are not established.
The following are supplied in buffer containing a stabilizer and a preservative.

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a. Volume required to stain 10^6 cells.
b. BD Horizon™ V500-C, BD Horizon Brilliant™ Violet 605

**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.

**CAUTION** If you choose to combine BD Horizon Brilliant™ reagents in a multicolor staining cocktail, dyes may bind to one another without the use of a buffering solution, such as BD Horizon™ Brilliant Stain Buffer.

**NOTE** The technical information for the BV605 conjugate was generated on a BD FACSTM brand flow cytometer using a violet laser and a 606/36 filter.

**Purity**

- Pure: ≥85% pure at bottling, as measured by polyacrylamide gel electrophoresis (PAGE)
- FITC: ≤5% free fluorophore at bottling, as measured by size-exclusion chromatography (SEC)
- PerCP, PerCP-Cy5.5, PE-Cy7, APC, APC-Cy7, APC-H7, AmCyan, V500-C: ≤20% free fluorophore at bottling, as measured by SEC
- BV605: ≤25% free fluorophore at bottling, as measured by ion-exchange chromatography (IEC)

**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 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.

WARRANTY

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REFERENCES

5. Gallagher PF, Fazekas de St. Groth B, Miller JFAP. CD4 and CD8 molecules can physically associate with the same T-cell receptor. Proc Natl Acad Sci USA. 1989;86:10044-10048.


**PATENTS AND TRADEMARKS**

BD Horizon Brilliant Violet 605 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; or 8,354,239.

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