Technical Data Sheet

APC-Cy™7 Mouse Anti-Human CD8

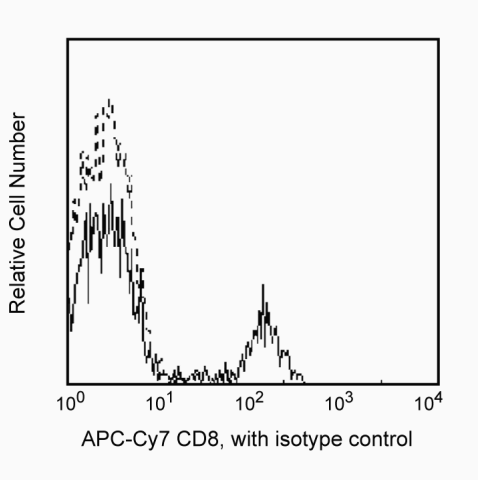
Product Information

Material Number:	**557834**
Alternate Name:	CD8α; CD8A; CD8 alpha; Leu2a; MAL; T8; p32
Size:	100 Tests
Vol. per Test:	5 µl
Clone:	SK1
Immunogen:	Human Peripheral Blood T Cells
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human Tested in Development: Rhesus, Cynomolgus, Baboon
Workshop:	I T51,74; III T118,152,571
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

CD8 recognizes the 32-kDa a-subunit of a disulfide-linked bimolecular complex. The majority of peripheral blood CD8+ T lymphocytes express an a/b heterodimer (Mr 32, 30 kDa), while CD8+CD16+ natural killer (NK) lymphocytes and CD8+ T-cell receptor (TCR)-γ/δ+ lymphocytes express a/a homodimer (Mr 30 kDa). CD8+TCR-α/β+ 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 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.

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+ and 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-lymphocytes function. CD8 cross-reacts with lymphocytes of some nonhuman primate species.



Profile of peripheral blood lymphocytes analyzed by flow cytometry

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with APC-Cy7 under optimum conditions, and unconjugated antibody and free APC-Cy7 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
557873	APC-Cy™7 Mouse IgG1, κ Isotype Control	100 Tests	MOPC-21

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. APC-Cy7 is a tandem fluorochrome composed of Allophycocyanin (APC), which is excited by laser lines between 595 and 647 nm and serves as an energy donor, coupled to the cyanine dye Cy7™, which acts as an energy acceptor and fluoresces at 780 nm. BD Biosciences Pharmingen has maximized the fluorochrome energy transfer in APC-Cy7, thus maximizing its fluorescence emission intensity, minimizing residual emission from APC, and minimizing required electronic compensation in multilaser-laser flow cytometry systems. Note: Although every effort is made to minimize the lot-to-lot variation in residual emission from APC, it is strongly recommended that every lot be tested for differences in the amount of compensation required and that individual compensation controls are run for each APC-Cy7 conjugate.
6. APC-Cy7 tandem fluorochrome emission is collected in a detector for fluorescence wavelengths of 750 nm and higher.
7. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
8. Warning: Some APC-Cy7 and PE-Cy7 conjugates show changes in their emission spectrum with prolonged exposure to formaldehyde. If you are unable to analyze fixed samples within four hours, we recommend that you use BD™ Stabilizing Fixative (Cat. No. 338036).
9. This product is subject to proprietary rights of Amersham Biosciences Corp. and Carnegie Mellon University and made and sold under license from Amersham Biosciences Corp. This product is licensed for sale only for research. It is not licensed for any other use. If you require a commercial license to use this product and do not have one return this material, unopened to BD Biosciences, 10975 Torreyana Rd, San Diego, CA 92121 and any money paid for the material will be refunded.
10. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
11. Cy is a trademark of Amersham Biosciences Limited.
12. This conjugated product is sold under license to the following patent: US Patent No. 5,714,386.
13. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
14. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Beavis AJ, Pennline KJ. Allo-7: a new fluorescent tandem dye for use in flow cytometry. *Cytometry*. 1996; 24(4):390-395. (Biology)
Knapp W, Dörken B, Gilks WR, et al, ed. *Leucocyte Typing IV*. New York, NY: Oxford University Press; 1989:1-1182. (Biology)
Roederer M, Kantor AB, Parks DR, Herzenberg LA. Cy7PE and Cy7APC: bright new probes for immunofluorescence. *Cytometry*. 1996; 24(3):191-197. (Biology)
Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leucocyte Typing V*. New York: Oxford University Press; 1995. (Biology)

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