

Technical Data Sheet

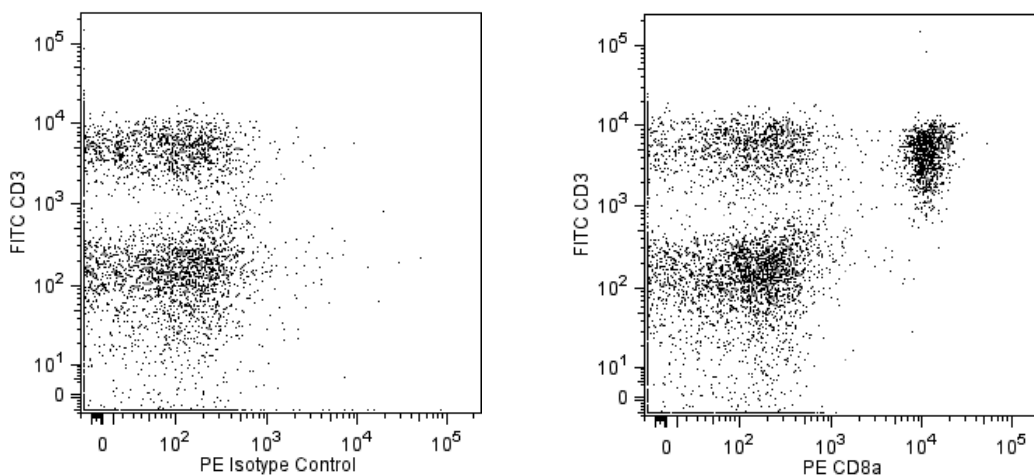
PE Rat Anti-Mouse CD8a

Product Information

Material Number:	553033
Alternate Name:	Cd8a; CD8 alpha chain; Ly-2; Lyt2; Lyt-2; Ly-35; Ly-B
Size:	0.2 mg
Concentration:	0.2 mg/ml
Clone:	53-6.7
Immunogen:	Mouse Spleen Cells or Thymocyte Membranes
Isotype:	Rat (LOU) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The 53-6.7 monoclonal antibody specifically binds to the 38 kDa α and 34 kDa α' chains of the CD8 differentiation antigen (Ly-2 or Lyt-2) of all mouse strains tested. The CD8 α and α' chains (CD8a) form heterodimers with the CD8 β chain (CD8b, Ly-3, or Lyt-3) on the surface of most thymocytes. A subpopulation of mature T lymphocytes (i.e., MHC class I-restricted T cells, including most T suppressor/cytotoxic cells) expresses almost exclusively the CD8 $\alpha\beta$ heterodimer. Subsets of $\gamma\delta$ TCR-bearing T cells, intestinal intraepithelial lymphocytes, and dendritic cells express CD8a without CD8b. It has been suggested that the expression of the CD8a/CD8b heterodimer is restricted to T lymphocytes which matured in the thymus or in an extrathymic environment that had been influenced by thymus-initiated neuroendocrine signals. CD8 is an antigen coreceptor on the T-cell surface which interacts with MHC class I molecules on antigen-presenting cells or epithelial cells. It participates in T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase lck (p56 [lck]). The CD8 α and α' chains arise from alternatively spliced messengers of a single *CD8a* gene. The longer α form associates with p56 [lck] via a CXCP motif in its cytoplasmic domain, which it shares with CD4, but not with CD8b. The truncated α' chain is unable to associate with p56 [lck], and it may function to attenuate the CD8-mediated costimulatory signal during intrathymic T-cell maturation. In vivo and in vitro treatment with 53-6.7 mAb has reportedly been effective at depleting CD8⁺ peripheral T lymphocytes. The 53-6.7 antibody has also been reported to cross-react with CD8 α - and α' -like polypeptides on subsets of thymic and peripheral lymphocytes in the Egyptian toad, *Bufo regularis*.



Two-color flow cytometric analysis of CD8a expression on mouse splenocytes. Mouse splenic leucocytes were stained with FITC Hamster Anti-Mouse CD3e (Cat. No. 553061/553062/561827) and either PE Rat IgG2a, κ Isotype Control (Cat. No. 553930; left plot) or PE Rat Anti-Mouse CD8a (Cat. No. 561095/553032/553033; right plot). The two-color dot plot showing the correlated expression of CD8a versus CD3e was derived from gated events with the forward and side light-scatter characteristic of viable splenic leucocytes.

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 R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

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Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
553930	PE Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554714	BD Cytotfix/Cytoperm™ Fixation/Permeabilization Kit	250 Tests	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
553032	PE Rat Anti-Mouse CD8a	0.1 mg	53-6.7
554656	Stain Buffer (FBS)	500 mL	(none)
561095	PE Rat Anti-Mouse CD8a	25 μ g	53-6.7
553061	FITC Hamster Anti-Mouse CD3e	0.1 mg	145-2C11
553062	FITC Hamster Anti-Mouse CD3e	0.5 mg	145-2C11
561827	FITC Hamster Anti-Mouse CD3e	25 μ g	145-2C11

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.

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