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 ≤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 (CD8α) 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 αβ heterodimer. Subsets of γδ TCR-bearing T cells, intestinal intraepithelial lymphocytes, and dendritic cells express CD8α without CD8b. It has been suggested that the expression of the CD8α/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 CD8α 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.

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.

Two-color flow cytometric analysis of CD8α expression on mouse splenocytes. Mouse splenic leucocytes were stained with FITC Hamster Anti-Mouse CD3ε (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 CD8α versus CD3ε was derived from gated events with the forward and side light-scatter characteristic of viable splenic leucocytes.
Suggested Companion Products

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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.

References


Hathcock KS. T cell deletion by cytotoxic elimination. *Curr Protoc Immunol.* 1991; 1:3.4.1-3.4.3. (Biology)


O'Rourke AM, Mescher MF. The roles of CD8 in cytotoxic T lymphocyte function. *Ann NY Acad Sci.* 1990; 577:333-348. (Biology)

O'Rourke AM, Mescher MF. The roles of CD8 in cytotoxic T lymphocyte function. *Ann NY Acad Sci.* 2000; 912:262-273. (Biology)


