

## Technical Data Sheet

## PE Rat Anti-Mouse CD8b.2

## Product Information

|                  |                                                                  |
|------------------|------------------------------------------------------------------|
| Material Number: | 553041                                                           |
| Alternate Name:  | Ly-3.2                                                           |
| Size:            | 0.1 mg                                                           |
| Concentration:   | 0.2 mg/ml                                                        |
| Clone:           | 53-5.8                                                           |
| Immunogen:       | Mouse thymus or spleen                                           |
| Isotype:         | Rat (LOU) IgG1, $\kappa$                                         |
| Reactivity:      | QC Testing: Mouse                                                |
| Storage Buffer:  | Aqueous buffered solution containing $\leq 0.09\%$ sodium azide. |

## Description

The 53-5.8 antibody reacts with the  $\beta$  chain of the CD8 differentiation antigen (Ly-3.2 or Lyt-3.2) of most mouse strains, having weak reactivity with Ly-3.1 strains (e.g., AKR, C58, MRL, PL). The CD8  $\alpha$  and  $\alpha'$  chains (CD8a) form heterodimers with the CD8  $\beta$  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 (the  $\alpha'$  chain is absent). 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. It participates in T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase Lck (p56lck).

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.

## Preparation and Storage

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 by gel filtration chromatography.

Store undiluted at 4° C and protected from prolonged exposure to light. Do not freeze.

## Application Notes

## Application

|                |                  |
|----------------|------------------|
| Flow cytometry | Routinely Tested |
|----------------|------------------|

## Suggested Companion Products

| Catalog Number | Name                                  | Size   | Clone |
|----------------|---------------------------------------|--------|-------|
| 553925         | PE Rat IgG1, $\kappa$ Isotype Control | 0.1 mg | R3-34 |

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at [www.bdbiosciences.com/pharmingen/colors](http://www.bdbiosciences.com/pharmingen/colors).
4. 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.

## BD Biosciences

[www.bdbiosciences.com](http://www.bdbiosciences.com)

|               |              |               |              |              |                         |
|---------------|--------------|---------------|--------------|--------------|-------------------------|
| United States | Canada       | Europe        | Japan        | Asia Pacific | Latin America/Caribbean |
| 877.232.8995  | 888.259.0187 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 55.11.5185.9995         |

For country-specific contact information, visit [www.bdbiosciences.com/how\\_to\\_order/](http://www.bdbiosciences.com/how_to_order/)

*Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.*

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

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2007 BD



## References

- Bierer BE, Sleckman BP, Ratnoffsky SE, Burakoff SJ. The biologic roles of CD2, CD4, and CD8 in T-cell activation. *Annu Rev Immunol.* 1989; 7:579-599.(Biology)
- Fujiura Y, Kawaguchi M, Kondo Y, et al. Development of CD8 alpha alpha+ intestinal intraepithelial T cells in beta 2-microglobulin- and/or TAP1-deficient mice. *J Immunol.* 1996; 156(8):2710-2715.(Biology)
- Janeway CA Jr. The T cell receptor as a multicomponent signalling machine: CD4/CD8 coreceptors and CD45 in T cell activation. *Annu Rev Immunol.* 1992; 10:645-674.(Biology)
- Ledbetter JA, Herzenberg LA. Xenogeneic monoclonal antibodies to mouse lymphoid differentiation antigens. *Immunol Rev.* 1979; 47:63-90.(Immunogen)
- Ledbetter JA, Rouse RV, Micklem HS, Herzenberg LA. T cell subsets defined by expression of Lyt-1,2,3 and Thy-1 antigens. Two-parameter immunofluorescence and cytotoxicity analysis with monoclonal antibodies modifies current views. *J Exp Med.* 1980; 152(2):280-295.(Biology)
- Ledbetter JA, Seaman WE, Tsu TT, Herzenberg LA. Lyt-2 and lyt-3 antigens are on two different polypeptide subunits linked by disulfide bonds. Relationship of subunits to T cell cytolytic activity. *J Exp Med.* 1981; 153(6):1503-1516.(Biology)
- LeFrancois L. Extrathymic differentiation of intraepithelial lymphocytes: generation of a separate and unequal T-cell repertoire. *Immunol Today.* 1991; 12(12):436-438.(Biology)
- MacDonald HR, Schreyer M, Howe RC, Bron C. Selective expression of CD8 alpha (Ly-2) subunit on activated thymic gamma/delta cells. *Eur J Immunol.* 1990; 20(4):927-930.(Biology)
- Murosaki S, Yoshikai Y, Ishida A, et al. Failure of T cell receptor V beta negative selection in murine intestinal intra-epithelial lymphocytes. *Int Immunol.* 1991; 3(10):1005-1013.(Biology)
- Nakayama K, Nakayama K, Negishi I, et al. Requirement for CD8 beta chain in positive selection of CD8-lineage T cells. *Science.* 1994; 263(5150):1131-1133.(Biology)
- O'Rourke AM, Mescher MF. The roles of CD8 in cytotoxic T lymphocyte function. *Immunol Today.* 1993; 14(4):183-188.(Biology)
- Rocha B, Vassalli P, Guy-Grand D. The extrathymic T-cell development pathway. *Immunol Today.* 1992; 14(3):140-141.(Biology)
- Süss G, Shortman K. A subclass of dendritic cells kills CD4 T cells via Fas/Fas-ligand-induced apoptosis. *J Exp Med.* 1996; 183(4):1789-1796.(Biology)
- Sydora BC, Brossay L, Hagenbaugh A, Kronenberg M, Cheroute H. TAP-independent selection of CD8+ intestinal intraepithelial lymphocytes. *J Immunol.* 1996; 156(11):4209-4216.(Biology)
- Vremec D, Zorbas M, Scollay R, et al. The surface phenotype of dendritic cells purified from mouse thymus and spleen: investigation of the CD8 expression by a subpopulation of dendritic cells. *J Exp Med.* 1992; 176(1):47-58.(Biology)
- Walker ID, Murray BJ, Hogarth PM, Kelso A, McKenzie IF. Comparison of thymic and peripheral T cell Ly-2/3 antigens. *Eur J Immunol.* 1984; 14(10):906-910.(Biology)
- Wang J, Klein JR. Thymus-neuroendocrine interactions in extrathymic T cell development. *Science.* 1994; 265(5180):1860-1862.(Biology)
- Wu L, Vremec D, Ardavin C, et al. Mouse thymus dendritic cells: kinetics of development and changes in surface markers during maturation. *Eur J Immunol.* 1995; 25(2):418-425.(Biology)
- Zamoyska R. The CD8 coreceptor revisited: one chain good, two chains better. *Immunity.* 1994; 1(4):243-246.(Biology)