Technical Data Sheet

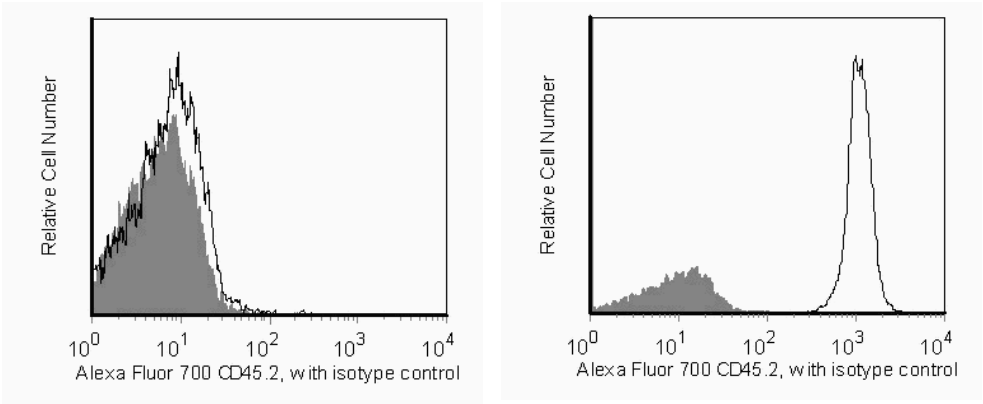
# Alexa Fluor® 700 Mouse Anti-Mouse CD45.2

## Product Information

| | |
|---|---|
| **Material Number:** | **560693** |
| **Alternate Name:** | Ly-5.2; T200; LCA; Leukocyte common antigen; Ptprc |
| **Size:** | 50 µg |
| **Concentration:** | 0.2 mg/ml |
| **Clone:** | 104 |
| **Immunogen:** | B10.S mouse thymocytes and splenocytes |
| **Isotype:** | Mouse (SJL) IgG2a, κ |
| **Reactivity:** | QC Testing: Mouse |
| **Storage Buffer:** | Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide. |

## Description

The 104 clone has been reported to react with CD45 (Leukocyte Common Antigen) on all leukocytes of most mouse strains (eg, A, AKR, BALB/c, CBA/Ca, CBA/J, C3H/He, C57BL, C57BR, C57L, C58, DBA/1, DBA/2, NZB, SWR, 129). This alloantigen was originally named Ly-5.1, and this was the designation at the time that the antibody was characterized. The designation was later changed from Ly-5.1 to Ly-5.2 to conform with the convention that the .2 alloantigen designations be assigned to the C57BL/6 strain. mAb 104 has been reported not to react with leukocytes of the mouse strains expressing the CD45.1 alloantigen (eg, RIII, SJL/J, STS/A, and DA). CD45 is a member of the Protein Tyrosine Phosphatase (PTP) family: its intracellular (COOH-terminal) region contains two PTP catalytic domains, and the extracellular region is highly variable due to alternative splicing of exons 4, 5, and 6 (designated A, B, and C, respectively), plus differing levels of glycosylation. The CD45 isoforms detected in the mouse are cell type-, maturation-, and activation state-specific. The CD45 isoforms play complex roles in T-cell and B-cell antigen receptor signal transduction. The 104 antibody has been reported to inhibit some responses of B cells, from mice expressing the CD45.2 alloantigen, to certain antigens and LPS. In addition, reduction of serum IgG levels and amelioration of autoimmune renal pathology were reported in mAb 104-treated systemic lupus erythematosus-prone mice.




***Flow cytometric analysis of CD45.2 on mouse splenocytes.*** *Splenocytes from SJL/J mice (left panel) or C57BL/6 mice (right panel) were stained either with a Alexa Fluor® 700 Mouse IgG2a, κ isotype control (shaded) or with the Alexa Fluor® 700 Mouse Anti-Mouse CD45.2 antibody (unshaded). Histograms were derived from gated events based on light scattering characteristics for lymphocytes. Flow cytometry was performed on a BD™ LSR II flow cytometry system.*

## 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 to Alexa Fluor® 700 under optimum conditions, and unreacted Alexa Fluor® 700 was removed.

## Application Notes

**Application**

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

## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 557880 | Alexa Fluor® 700 Mouse IgG2a, κ Isotype Control | 0.1 mg | G155-178 |
| 553141 | Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) | 0.1 mg | 2.4G2 |

**BD Biosciences**

bdbiosciences.com

| United States | Canada | Europe | Japan | Asia Pacific | Latin America/Caribbean |
|---|---|---|---|---|---|
| 877.232.8995 | 888.268.5430 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 0800.771.7157 |

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

## 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. Alexa Fluor® 700 has an adsorption maximum of ~700nm and a peak fluorescence emission of ~720nm. Before staining cells with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
6. 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.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

## References


Johnson P, Greenbaum L, Bottomly K, Trowbridge IS. Identification of the alternatively spliced exons of murine CD45 (T200) required for reactivity with B220 and other T200-restricted antibodies. *J Exp Med.* 1989; 169(3):1179-1184. (Biology)

Morse HC 3rd, Shen FW, Hammerling U. Genetic nomenclature for loci controlling mouse lymphocyte antigens. *Immunogenetics.* 1987; 25(2):71-78. (Biology)

Ogimoto M, Mizuno K, Tate G, et al. Regulation of lipopolysaccharide- and IL-4-induced immunoglobulin heavy chain gene activation: differential roles for CD45 and Lyb-2. *Int Immunol.* 1992; 4(6):651-659. (Biology)

Shapiro HM. *Practical Flow Cytometry, 3rd Edition.* New York: Wiley-Liss, Inc; 1995:280-281. (Methodology: Flow cytometry)

Shen FW. Monoclonal antibodies to mouse lymphocyte differentiation alloantigens. In: Hammerling GJ, Hammerling U, Kearney JF, ed. *Monoclonal Antibodies and T-cell Hybridomas; Perspectives and Technical Advances.* 1981:25-31. (Immunogen)

Shen FW, Tung JS, Boyse EA. Further definition of the Ly-5 system. *Immunogenetics.* 1986; 24(3):146-149. (Biology)

Suzuki K, Oida T, Hamada H, et al. Gut cryptopatches: direct evidence of extrathymic anatomical sites for intestinal T lymphopoiesis. *Immunity.* 2000; 13(5):691-702. (Biology)

Yakura H, Ashida T, Kawabata I, Katagiri M. Alleviation of autoimmunity in BXSB mice by monoclonal alloantibody to Ly-5 (CD45). *Eur J Immunol.* 1989; 19(8):1505-1508. (Biology)

Yakura H, Kawabata I, Ashida T, Katagiri M. Differential regulation by Ly-5 and Lyb-2 of IgG production induced by lipopolysaccharide and B cell stimulatory factor-1 (IL-4). *J Immunol.* 1988; 141(3):875-880. (Biology)

Yakura H, Kawabata I, Shen FW, Katagiri M. Selective inhibition of lipopolysaccharide-induced polyclonal IgG response by monoclonal Ly-5 antibody. *J Immunol.* 1986; 136(8):2729-2733. (Biology)

Yakura H, Shen FW, Bourcet E, Boyse EA. On the function of Ly-5 in the regulation of antigen-driven B cell differentiation. Comparison and contrast with Lyb-2. *J Exp Med.* 1983; 157(4):1077-1088. (Biology)