

## Technical Data Sheet

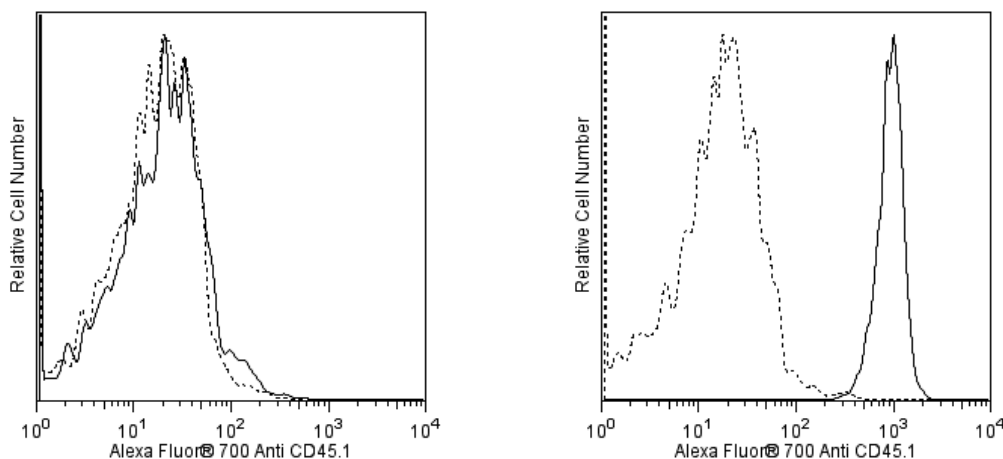
## Alexa Fluor® 700 Mouse Anti-Mouse CD45.1

## Product Information

<b>Material Number:</b>	<b>561235</b>
<b>Alternate Name:</b>	Ly-5; Lyt4; CD45R; LCA; Ptpcr; Protein tyrosine phosphatase receptor type C
<b>Size:</b>	50 µg
<b>Concentration:</b>	0.2 mg/ml
<b>Clone:</b>	A20
<b>Immunogen:</b>	SJL mouse thymocytes and splenocytes
<b>Isotype:</b>	Mouse (A.SW) IgG2a, κ
<b>Reactivity:</b>	QC Testing: Mouse
<b>Storage Buffer:</b>	Aqueous buffered solution containing protein stabilizer and ≤0.09% sodium azide.

## Description

The A20 monoclonal antibody specifically binds to CD45 (Leukocyte Common Antigen) on all leukocytes of mouse strains expressing the CD45.1 alloantigen (eg, RIII, SJL/J, STS/A, DA). This alloantigen was originally named Ly-5.2, and this was the designation at the time that the antibody was characterized. The designation was later changed from Ly-5.2 to Ly-5.1 to conform with the convention that the .2 alloantigen designations be assigned to the C57BL/6 strain. mAb A20 has been reported not to react with leukocytes of most other mouse strains, which express the CD45.2 alloantigen. 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 A20 antibody has been reported to inhibit some responses of B cells, from mice expressing the CD45.1 alloantigen, to antigens and LPS.



**Flow cytometric analysis of CD45.1 expression on mouse splenocytes.** Splenocytes from C57BL/6 mice (Left Panel) and SJL/J mice (Right Panel) were stained either with a Alexa Fluor® 700 Mouse IgG2a, κ Isotype Control (Cat. No. 557880; dashed line histogram) or with the Alexa Fluor® 700 Mouse anti-Mouse CD45.1 antibody (Cat. No. 561235; solid line histogram). Histograms were derived from gated events based on the light scattering characteristics for viable cells. Flow cytometry was performed on a BD™ LSR II Flow Cytometry System.

## Preparation and Storage

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.

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

## Application Notes

## Application

Flow cytometry

Routinely Tested

## Recommended Assay Procedure:

An isotype control should be used at the same concentration as the antibody of interest.

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## Suggested Companion Products

Catalog Number	Name	Size	Clone
557880	Alexa Fluor® 700 Mouse IgG2a, κ Isotype Control	0.1 mg	G155-178
554656	Stain Buffer (FBS)	500 ml	(none)

## 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. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
4. 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.
5. 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.
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. 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.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).

## 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)

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, 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: Inhibition)

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: Inhibition)

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