molecular probes
by life technologies

MOUSE anti-MOUSE CD45.1 (Ly-5.1)

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Store at 2° to 8°C

Catalog No.	Form	Amount	Excitation	Peak Emission	Matching Isotype Control
MCD45101	FITC	500 µg	488 nm	519 nm	Mouse IgG_{2a} FITC (Cat. no. MG2a01)
A14732	FITC	0.05 mL (25 µg)			
A14734	Alexa Fluor® 647	0.05 mL (25 µg)	650 nm	668 nm	—
A14794	PerCP-Cy®5.5	0.125 mL (25 µg)	482 nm	695 nm	—
A14733	PE-Cy®7	0.25 mL (25 µg)	488 nm	767 nm	—

Product Description

The CD45 antigen (Leucocyte Common Antigen) is an essential regulator of leukocyte activation and development. It is a protein tyrosine phosphatase which is able to dephosphorylate Src family protein kinases[1, 2]. This activity is known to be required for signal transduction induced by T and B cell antigen receptor engagement, cytokine signaling, and Fc receptor stimulation[1, 2]. The functional state of CD45 also has a pronounced effect on lymphocyte development. CD45 exists in multiple forms, such as the restricted variants (CD45R) and as allelic forms CD45.1/Ly-5.1 and CD45.2/Ly-5.2. The former arises as a result of alternative splicing of different exons. The specificity of antibodies to CD45.1 and CD45.2 has been exploited in studies where resolution of donor and recipient cells is essential, such as in gene therapy or bone marrow transplantation[3, 4].

The antibody recognizes all mouse leukocytes expressing the CD45.1 allotype.

Product Specifications

Clonality: Monoclonal
Host/Class: Mouse IgG
Reactivity: Mouse CD45.1 (Ly-5.1)
Immunogen: SJL mouse thymocytes and splenocytes
Apparent MW: 180–240 kDa
Gene ID: 18613
Sequence Identity: Mouse
Clone/PAD: A20
Isotype: IgG_{2a}
Lot: See product label

Product Applications

Applications reported for the Mouse anti-Mouse CD45.1 (Ly-5.1) mAb include flow cytometry, immunoprecipitation, markers for origin of donor and host cells, and fluorescence microscopy[3, 4].

Because conditions may vary, it is recommended that each investigator determine the optimal amount of antibody to be used for each application.

Storage and Handling

Store reagents at 2° to 8°C. If the reagent is being diluted, it is recommended that only the quantity to be used within one week be diluted. Cells should be analyzed within 18 hours of staining for best results.
Avoid light exposure with fluorochrome-conjugated antibodies. Use dim light during handling, incubation with cells, and prior to analysis.

Stability

When stored as instructed, expires one year from date of receipt unless otherwise indicated on product label.

Storage Buffer

Phosphate buffered saline (PBS) with 0.1% sodium azide, and BSA as a stabilizing agent. PE-Cy®7 conjugates contain PBS with 0.1% sodium azide, and a non-BSA stabilizing agent. PerCP-Cy®5.5 conjugates contain an aqueous buffer with 0.09% sodium azide, and may contain carrier protein/stabilizer.

Caution: Sodium azide is an extremely toxic and dangerous compound particularly when combined with acids or metals. Properly dispose of solutions containing sodium azide.

References

1. Okumura, M. and M. L. Thomas. 1995. *Current Opin. Immunol.* 7:312–319.
2. Thomas. M. L. 1995. *Seminars in Immunol.* 7:279–288.
3. Mardiney, M. and H. L. Malech. 1996. *Blood* 87:4049–4056.
4. Vallera, D. A., Taylor, P. A., Sprent, J., and B. R. Blazar. 1994. *Transplantation* 57:249–256.

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Product Documentation

To obtain a Certificate of Analysis or Safety Data Sheets (SDSs), visit **www.lifetechnologies.com/support**.

Related Products

Product Name	Quantity	Catalog no.
AbC™ Anti-Mouse Bead Kit	1 kit	A10344
AbC™ anti-Rat/Hamster Bead Kit	1 kit	A10389
Protein A Agarose	5 mL	15918-014
Recombinant Protein G (rProtein G) Agarose	5 mL	15920-010

Explanation of symbols

Symbol	Description	Symbol	Description
REF	Catalogue Number	LOT	Batch code
RUO	Research Use Only	IVD	*In vitro* diagnostic medical device
	Use by		Temperature limitation
	Manufacturer	EC REP	European Community authorised representative
[-]	Without, does not contain	[+]	With, contains
	Protect from light		Consult accompanying documents
	Directs the user to consult instructions for use (IFU), accompanying the product.		

Limited Product Warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale found on Life Technologies' website at **www.lifetechnologies.com/termsandconditions**. If you have any questions, please contact Life Technologies at **www.lifetechnologies.com/support**.

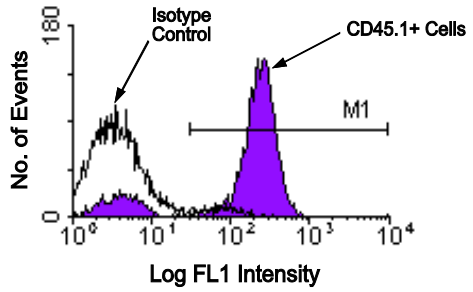

Figure 1 CD45.1/Ly5.1 expression on mouse splenocytes.

SJL spleen cells were stained with Mouse anti-Mouse CD45.1-FITC, following which small lymphocytes were gated and analyzed on a FACScan™ flow cytometer (BDIS, San Jose, CA).

Negative control profiles represent unstained cells.

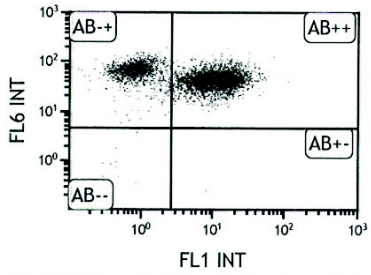

Figure 2 Two-color analysis of CD45.1/Ly5.1 expression on mouse splenocytes.

BALB/c splenocytes were double-stained with Mouse anti-Mouse CD45.1/Ly5.1-Alexa Fluor® 647 Monoclonal Antibody (Cat. no. A14734) and a rat anti-mouse CD3-FITC antibody.

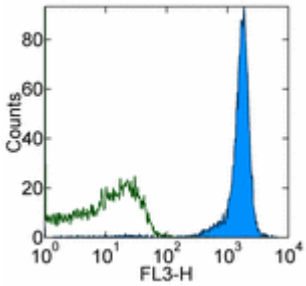

Figure 3 CD45.1/Ly5.1 expression on mouse splenocytes.

Staining of SJL splenocytes with 0.125 µg of a mouse IgG2a kappa isotype control-PerCP-Cy®5.5 (open histogram) or 0.125 µg of Mouse anti-Mouse CD45.1/Ly5.1-PerCP-Cy®5.5 Monoclonal Antibody (Cat. no. A14794) (filled histogram). Total viable cells were used for analysis.

Note: All flow cytometric data shown may not necessarily have been generated using the enclosed lot of reagent. For this reason, and due to differences in flow cytometers and cytometer settings, results may vary from those illustrated above. It is suggested that investigators titrate reagents to determine optimal conditions for use in their systems.

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