Technical Data Sheet

Alexa Fluor[®] 647 Rat Anti-Mouse CD45RA

Product Information

Material Number:	562763
Alternate Name:	Ptprc; CD45R; CD45; LCA; Leukocyte common antigen; Ly-5; Lyt-4
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	14.8
Immunogen:	Radiation-induced NZC mouse B lymphoma WEHI-279
Isotype:	Rat IgG2b, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 14.8 clone has been reported to react with an exon A-dependent epitope of the CD45 protein, which is found at high density on B cells and at low density on peripheral T cytotoxic/suppressor cells and a very small subset of thymocytes. Nearly all B-lineage cells, including B-cell precursors in fetal liver and adult bone marrow and Ig-secreting cells, but not hematopoietic stem cells or myeloid progenitors, have been reported to be detectable by mAb 14.8. 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. mAb 14.8 has been reported to enhance the proliferative effect of PHA on purified spleen T cells, possibly by replacing a signal normally delivered by accessory cells, to enhance isotype switching during in vitro B-cell responses, and to inhibit antigen-induced p21 [ras] activation.



Multicolor flow cytometric analysis of CD45RA expression on BALB/c mouse spleen. Splenocytes were stained simultaneously with PE Rat Anti-Mouse CD3 antibody (Cat. No. 553063/553064/561824) and with either Alexa Fluor® 647 Rat IgG2b, κ Isotype Control (Cat. No. 557691; Left Panel) or Alexa Fluor® 647 Rat Anti-Mouse CD45RA (Cat. No. 562763; Right Panel). Two-color flow cytometric dot plots show the correlated expression patterns of CD45RA (or Ig isotype control staining) versus CD3 for gated events with the forward and side light-scatter characteristics of viable spleen cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometer 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® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

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Application Notes

App	lication

Flow cytometry	Routinely Tested		

Suggested Companion Products

Catalog Number	Name	Size	Clone	
557691	Alexa Fluor® 647 Rat IgG2b, κ Isotype Control	0.1 mg	A95-1	
554656	Stain Buffer (FBS)	500 ml	(none)	
553063	PE Hamster Anti-Mouse CD3e	0.1 mg	145-2C11	
553064	PE Hamster Anti-Mouse CD3e	0.2 mg	145-2C11	
561824	PE Hamster Anti-Mouse CD3e	25 μg	145-2C11	

Product Notices

- Since applications vary, each investigator should titrate the reagent to obtain optimal results. 1.
- 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 for technical protocols.
- 4. The Alexa Fluor®, Pacific BlueTM, 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® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
- Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC). 6.
- 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.
- For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at 8. www.bdbiosciences.com/colors.

References

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