**Product Information**

**Material Number:** 553101  
**Alternate Name:** Ptprc; CD45R; CD45; LCA; Leukocyte common antigen; Ly-5; Lyt-4  
**Size:** 0.1 mg  
**Concentration:** 0.2 mg/ml  
**Clone:** 16A  
**Immunogen:** Cloned Mouse TH2 cell lines  
**Isotype:** Rat IgG2a, κ  
**Reactivity:** QC Testing: Mouse  
**Storage Buffer:** Aqueous buffered solution containing ≤0.09% sodium azide.

**Description**

The 16A monoclonal antibody specifically recognizes an exon B-dependent epitope of CD45 lycoprotein, which is found at high density on peripheral B cells, T cytotoxic/suppressor cells, a subset of T helper cells, and most thymocytes, and at low density on macrophages and dendritic cells. CD45RB expression appears to decrease as T lymphocytes progress from naive to memory cells. In addition, subpopulations of CD4+ T cells which express high and low levels of CD45RB have different cytokine secretion profiles and mediate distinct immunological functions. CD25+ D4+ regulatory T (Treg) lymphocytes which control intestinal inflammation and autoimmunity express low levels of CD45RB. 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 (designated A, B, and C, respectively) as well as 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.

**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 with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

**Application Notes**

**Application**  
**Flow cytometry** Routinely Tested

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*Flow cytometric analysis of CD45RB expression on mouse thymocytes. BALB/c mouse thymocytes were preincubated with Purified Rat Anti-Mouse CD16/CD32 antibody (Mouse BD Fc Block™) (Cat. No. 553141/553142). The cells were then stained with either PE Rat Anti-Mouse CD45RB antibody (Cat. No. 553101; solid line histogram) or PE Rat IgG2a, κ Isotype Control (Cat. No. 553930; dashed line histogram). The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable cells.*
## Suggested Companion Products

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<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>553930</td>
<td>PE Rat IgG2a, κ Isotype Control</td>
<td>0.1 mg</td>
<td>R35-95</td>
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<td>553141</td>
<td>Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)</td>
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<td>553142</td>
<td>Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)</td>
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<td>554657</td>
<td>Stain Buffer (BSA)</td>
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## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. 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.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

## References

- Ernst DN, Weigle WD, Noonan DJ, McQuilty DN, Hobbs MV. The age-associated increase in IFN-γ synthesis by mouse CD8+ T cells correlates with shifts in the frequencies of cell subsets defined by membrane CD44, CD45RB, 3G11, and MEL-14 expression. *J Immunol.* 1993; 151(2):575-587. (Biology)