

Technical Data Sheet

R718 Rat Anti-Mouse CD45RA

Product Information

Material Number:	751650
Size:	50 µg
Clone:	14.8
Alternative Name:	Ptprc; CD45R; CD45; LCA; Leukocyte common antigen; Ly-5; Lyt-4
Reactivity:	Tested in Development:Mouse
Isotype:	Rat IgG2b, κ
Application:	Flow cytometry(Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 14.8 monoclonal antibody specifically recognizes 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.

The antibody was conjugated to BD Horizon Red 718, which has been developed exclusively for BD Biosciences as a better alternative to Alexa Fluor® 700. BD Horizon Red 718 can be excited by the red laser (628 – 640 nm) and, with an Em Max around 718 nm, it can be detected using a 730/45 nm filter. Due to similar excitation and emission properties, we do not recommend using R718 in combination with APC-R700 or Alexa Fluor® 700.

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 the dye under optimum conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to BD CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and BD CompBead to ensure that BD CompBeads are appropriate for your specific cellular application.

Suggested Companion Products

Catalog Number	Name	Size
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg
554656	Stain Buffer (FBS)	500 mL
554657	Stain Buffer (BSA)	500 mL
555899	Lysing Buffer	100 mL
566943	R718 Rat IgG2b, κ Isotype Control	50 µg

Product Notices

1. Researchers should determine the optimal concentration of this reagent for their individual applications.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. 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.
5. Alexa Fluor® is a registered trademark of Life Technologies Corporation.
6. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
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