Technical Data Sheet

Purified Rat Anti-Mouse CD45R/B220

Product Information

Material Number:	**553084**
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	RA3-6B2
Immunogen:	Mouse Pre-B Tumor
Isotype:	Rat IgG2a, κ
Reactivity:	QC Testing: Mouse Reported: Human
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The RA3-6B2 antibody reacts with an epitope on the extracellular domain of CD45 glycoprotein which is dependent upon the expression of exon A and specific carbohydrate residues. It is expressed on B lyphocytes at all stages from pro-B through mature and activated B cell, but it is decreased on plasma cells and a subset of memory B cells. Levels of expression of CD45R/B220 on the B-cell lineage appear to be developmentally regulated. It is also found on the abnormal T cells involved in the lymphadenopathy of *lpr/lpr* and *gld/gld* mutant mice, on lytically active subsets of lymphokine-activated killer cells (NK cells and non-MHC-restricted CTL), on apoptotic T lymphocytes of mice injected with bacterial superantigen, on a population of NK-cell precursors in the bone marrow, and on B-lymphocyte, T-lymphocyte, and macrophage progenitors in fetal liver. The CD45R/B220 antigen is not on hematopoietic stem cells, naive T lymphocytes, or MHC-restricted CTL. 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. CD45R/B220 is commonly used as a pan B-cell marker; however, CD19 expression, detected by mAb 1D3, is reported to be more restricted to the B-cell lineage. mAb RA3-6B2 has been reported to enhance isotype switching during in vitro B-cell responses and to inhibit in vivo B-cell responses. Cross-reaction of RA3-6B2 mAb with activated human T lymphocytes has been observed.

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4° C.

Application Notes

Application

Flow cytometry	Routinely Tested
Immunoprecipitation	Reported
Immunohistochemistry-frozen	Reported
Immunohistochemistry-zinc-fixed	Reported

Recommended Assay Procedure:

Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE™ antibody format for in vitro and in vivo use.

For IHC, we recommend the use of purified RA3-6B2 mAb in our special formulation for immunohistochemistry, Cat. No. 550286.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
550286	Purified Rat Anti-Mouse CD45R/B220	1.0 ml	RA3-6B2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. 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.

References

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