Leinco Technologies, Inc.
*excellence in early discovery research™*

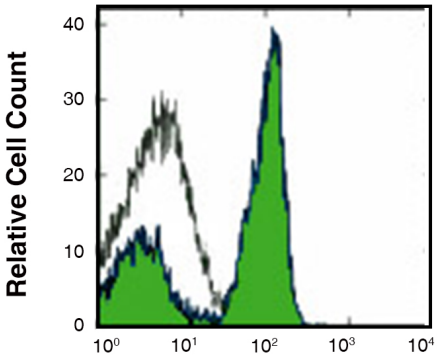
# Mouse/Human CD45R (B220) Antibody

## *Purified in vivo GOLD™ Functional Grade*

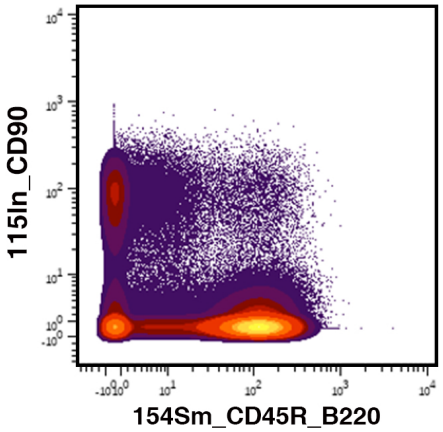
**Monoclonal Antibody**

### Product Information

**Product No.:** C383
**Clone:** RA3-6B2
**RRID:** AB_2737486
**Isotype:** Rat IgG2a κ
**Storage:** Sterile 2 to 8°C




Staining of C57 splenocytes with Anti-CD45R (B220) clone RA3-6B2 (green histogram) or Rat IgG2a Isotype Control (open histogram) followed by Goat Anti-Rat IgG (H&L)-FITC (Leinco Prod. No.: R1208).




**CyTOF™ Data:** Staining of a Murine Spleen was stained after using a metal conjugation kit to clone RA3-6B2, Anti-Mouse CD45R (B220) above.

## Product Description

### Specificity:

Clone RA3-6B2 recognizes the B-cell determinant (Mr 220 kD) of the CD45 molecule.

### Antigen Distribution:

The CD45R antigen is present on mouse B-cells, B-cell precursors and lytically active subsets of lymphokine-activated killer cells (NK cells and non-MHC restricted CTL).

### Background:

CD45 is a 180-240kD glycoprotein member of the protein tyrosine phosphatase (PTP) family known for its involvement in regulating a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. CD45 and its isoforms are vital regulators of T- and B-cell antigen receptor signaling. CD45 functions through its extracellular domain or through its cytoplasmic domain, and serves as a negative regulator of cytokine receptor signaling via JAK kinase supression. The large extracellular domain is highly glycosylated, and its multiple isoforms allow extensive variation in the structure of its side chains. CD45 isoforms show cell-type and differentiation-stage specific expression that can be used as markers that identify and distinguish between different types of immune cells. CD45R is an isoform of CD45 with a molecular weight of 220 kD. CD45R contains all three possible exons (A, B, and C); making it the longest protein generated from alternative splicing with a migration at 200 kD when isolated from T cells. Furthermore, B cells express CD45R with heavier glycosylation, bringing the molecular weight to 220 kD, hence the name B220. Notably, B220 expression is not only restricted to B cells and may also be expressed on activated T cells, on a subset of dendritic cells,

and on other antigen-presenting cells. Additionally, activated and memory T lymphocytes express CD45RO which facilitates T cell activation. CD45RO lacks all three possible exons (A, B, and C), making it the shortest CD45 isoform.

## Known Reactivity Species:
Human, Mouse

## Format:
Purified in vivo GOLD™ Functional Grade

## Immunogen:
Abelson murine leukemia virus-induced pre-B tumor cells

## Formulation
This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

## Purity
≥95% monomer by analytical SEC, >95% by SDS Page

## Endotoxin
< 1.0 EU/mg as determined by the LAL method

## Storage and Stability
Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C.
**Avoid Repeated Freeze Thaw Cycles.**

## Product Preparation
Functional grade preclinical antibodies are manufactured in an animal free facility using in vitro cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

## Applications
**Applications and Recommended Usage (Quality Tested By Leinco):**

FC The suggested concentration for this RA3-6B2 antibody for staining cells in flow cytometry is ≤ 0.25 µg per 106 cells in a volume of 100 µl. Titration of the reagent is recommended for optimal performance for each application.

**Other Applications Reported in Literature:**
**Act, CODEX®, CyTOF®, Depletion**
**FA, IHC (Frozen), IHC (Paraffin), IP**

## Country of Origin
USA

## References
1) Coffman, B. et al. (1982) Immunological Rev. 69:5
2) Zuhair, K. et al. (1993) J. Immunol. 150:17
3) Asensi, V. et al. (1989) Immunology 68:204
4) Gubin, M. et al. (2018) Cell. 175(4):1014–1030.e19 Journal Link