

# CD45RC (IBL-8): sc-59076

## BACKGROUND

CD45R, also designated CD45 and PTPRC, has been identified as a transmembrane glycoprotein, broadly expressed among hematopoietic cells. Multiple isoforms of CD45R are distributed throughout the immune system according to cell type. These isoforms arise because of alternative splicing of exons 4, 5, and 6. The corresponding protein domains are characterized by the binding of monoclonal antibodies specific for CD45RA (exon 4), CD45RB (exon 5), CD45RC (exon 6) and CD45RO (exons 4 to 6 spliced out). The variation in these isoforms is localized to the extracellular domain of CD45R, while the intracellular domain is conserved. CD45R functions as a phosphotyrosine phosphatase, a vital component for efficient tyrosine phosphorylation induction by the TCR/CD3 complex. The tyrosine phosphatase activity of CD45R is contained within the conserved intracellular domain. Src and Syk family protein tyrosine kinases are utilized by the TCR/CD3 complex to initiate signaling cascades. Several members of these two families, including Lck, Fyn and ZAP-70, have been implicated as physiological substrates of CD45R.

## REFERENCES

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- Birkeland, M.L., et al. 1988. Epitopes on CD45 [T200] molecules define differentiation antigens on murine B and T lymphocytes. *J. Mol. Cell. Immunol.* 4: 71-85.
- Johnson, P., et al. 1989. Identification of the alternatively spliced exons of murine CD45 (T200) required for reactivity with B220 and other T200-restricted antibodies. *J. Exp. Med.* 169: 1179-1184.
- Bottomly, K., et al. 1989. A monoclonal antibody to murine CD45R distinguishes CD4 T cell populations that produce different cytokines. *Eur. J. Immunol.* 19: 617-623.
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## CHROMOSOMAL LOCATION

Genetic locus: *Ptprc* (mouse) mapping to 1 E4.

## SOURCE

CD45RC (IBL-8) is a rat monoclonal antibody raised against spleen cells of mouse origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

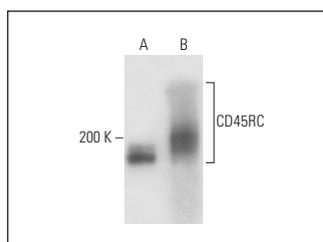
CD45RC (IBL-8) is recommended for detection of CD45RC of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells); not recommended for detection of CD4<sup>+</sup> T cells.

Suitable for use as control antibody for CD45 siRNA (m): sc-35001, CD45 shRNA Plasmid (m): sc-35001-SH and CD45 shRNA (m) Lentiviral Particles: sc-35001-V.

Molecular Weight of CD45RC: 147 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, BYDP whole cell lysate: sc-364368 or mouse thymus extract: sc-2406.

## DATA



CD45RC (IBL-8): sc-59076. Western blot analysis of CD45RC expression in BYDP whole cell lysate (A) and mouse thymus tissue extract (B).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.