

CD45RC (2Q1664): sc-70709

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

- West, K.P., et al. 1986. The demonstration of B cell, T cell and myeloid antigens in paraffin sections. *J. Pathol.* 150: 89-101.
- McMichael A.J., et al. 1987. *Leucocyte Typing III*. Oxford: Oxford University Press.
- Streuli, M., et al. 1987. Differential usage of three exons generates at least five different mRNAs encoding human leukocyte common antigens. *J. Exp. Med.* 166: 1548.
- Hall, P.A., et al. 1987. New marker of B lymphocytes, MB2: comparison with other lymphocyte subset markers active in conventionally processed tissue sections. *J. Clin. Pathol.* 40: 151.
- Poppema, S., et al. 1987. Monoclonal antibodies (MT1, MT2, MB1, MB2, MB3) reactive with leukocyte subsets in paraffin-embedded tissue sections. *Am. J. Pathol.* 127: 418.
- Birkeland, M.L., et al. 1989. 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. A monoclonal antibody to murine CD45R distinguishes CD4 T cell populations that produce different cytokines. *Eur. J. Immunol.* 19: 617-623.
- Bazil, V., et al. 1989. Sialic acid-dependent epitopes of CD45 molecules of restricted cellular expression. *Immunogenetics* 29: 202-205.

CHROMOSOMAL LOCATION

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

SOURCE

CD45RC (2Q1664) is a rat monoclonal antibody raised against CD45RC of mouse origin.

PRODUCT

Each vial contains 100 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

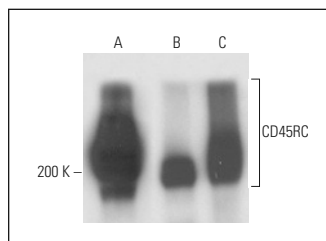
CD45RC (2Q1664) is recommended for detection of CD45RC of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10⁶ cells).

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: BYDP whole cell lysate: sc-364368, mouse PBL whole cell lysate or mouse thymus extract: sc-2406.

DATA



CD45RC (2Q1664): sc-70709. Western blot analysis of CD45RC expression in mouse PBL (A) and BYDP (B) whole cell lysates and mouse thymus tissue extract (C).

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 for detailed protocols and support products.