

CD45RC (6A295): sc-70711

BACKGROUND

CD45 has been identified as a transmembrane glycoprotein, broadly expressed among hematopoietic cells. Multiple isoforms of CD45 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 CD45, while the intracellular domain is conserved. CD45 functions as a phosphotyrosine phosphatase, a vital component for efficient tyrosine phosphorylation induction by the TCR/CD3 complex. The tyrosine phosphatase activity of CD45 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 CD45.

REFERENCES

1. Trowbridge, I.S. 1978. Interspecies spleen-myeloma hybrid producing monoclonal antibodies against mouse lymphocyte surface glycoprotein, T200. *J. Exp. Med.* 148: 313-323.
2. West, K.P., et al. 1986. The demonstration of B cell, T cell and myeloid antigens in paraffin sections. *J. Pathol.* 150: 89-101.
3. 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: 1548-1566.
4. 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: 151-156.
5. 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: 418-429.
6. 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.
7. 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 (6A295) is a mouse monoclonal antibody raised against stimulated lymphocytes of rat origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD45RC (6A295) is available conjugated to either phycoerythrin (sc-70711 PE) or fluorescein (sc-70711 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

CD45RC (6A295) is recommended for detection of CD45RC of mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) 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.

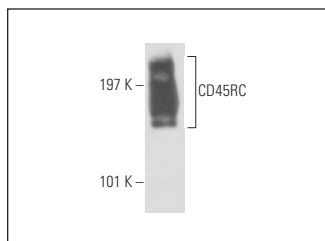
Molecular Weight of CD45RC: 180-220 kDa.

Positive Controls: rat PBL whole cell lysate or 3611-RF whole cell lysate: sc-2215.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CD45RC (6A295): sc-70711. Western blot analysis of CD45RC expression in rat PBL whole cell lysate.

RESEARCH USE

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