

CD45R (6B6): sc-73537

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. Woollett, G.R., Barclay, A.N., Puklavec, M. and Williams, A.F. 1985. Molecular and antigenic heterogeneity of the rat leukocyte-common antigen from thymocytes and T and B lymphocytes. *Eur. J. Immunol.* 15: 168-173.
2. West, K.P., Warford, A., Fray, L., Allen, M., Campbell, A.C. and Lauder, I. 1986. The demonstration of B-cell, T-cell and myeloid antigens in paraffin sections. *J. Pathol.* 150: 89-101.
3. Streuli, M., Hall, L.R., Saga, Y., Schlossman, S.F. and Saito, H. 1987. Differential usage of three exons generates at least five different mRNAs encoding human leukocyte common antigens. *J. Exp. Med.* 166: 1548.
4. Hall, P.A., D'Ardenne, A.J., Butler, M.G., Habeshaw, J.R. and Stansfeld, A.G. 1987. New marker of B lymphocytes, MB2: comparison with other lymphocyte subset markers active in conventionally processed tissue sections. *J. Clin. Pathol.* 40: 151.
5. Poppema, S., Hollema, H., Visser, L. and Vos, H. 1987. Monoclonal antibodies (MT1, MT2, MB1, MB2, MB3) reactive with leukocyte subsets in paraffin-embedded tissue sections. *Am. J. Pathol.* 127: 418.
6. McMichael, A.J., et al., ed. 1987. *Leucocyte Typing III: White Cell Differentiation Antigens.* Oxford, New York: Oxford University Press.
7. Thomas, M.L. 1989. The leukocyte common antigen family. *Annu. Rev. Immunol.* 7: 339-369.
8. Bazil, V., Stefanová, I., Hilgert, I., Kristofová, H., Vanek, S., Bukovský, A. and Horejsí, V. 1989. Monoclonal antibodies against human leukocyte antigens. III. Antibodies against CD45R, CD6, CD44 and two newly described broadly expressed glycoproteins MEM-53 and MEM-102. *Folia Biol.* 35: 289-297.
9. Bazil, V., Hilgert, I., Kristofová, H., Maurer, D. and Horejsí, V. 1989. Sialic acid-dependent epitopes of CD45 molecules of restricted cellular expression. *Immunogenetics* 29: 202-205.

CHROMOSOMAL LOCATION

Genetic locus: Ptpcr (mouse) mapping to 1 E4.

SOURCE

CD45R (6B6) is a mouse monoclonal antibody raised against low density cells from AO/G rat Peyer's patches.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD45R (6B6) is available conjugated to phycoerythrin (sc-73537 PE), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

CD45R (6B6) is recommended for detection of CD45R of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

uitable 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 CD45R: 240 kDa.

Positive Controls: 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, TBS Blotto A Blocking Reagent: sc-2333 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.

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.