

CD5 (h): 293T Lysate: sc-114211

BACKGROUND

CD5 (also designated L γ t-1) has been identified as a transmembrane glycoprotein that is expressed on 70% of normal peripheral blood lymphocytes and on virtually all T lymphocytes in thymus and peripheral blood. Activation of T cells through the T cell receptor (TCR) results in tyrosine phosphorylation of CD5, and the absence of CD5 renders T cells hyperresponsive to TCR-mediated activation. CD5 associates with the TCR/CD3- ζ chain and with the Src family kinase Lck p56. *In vitro* studies have shown a 10 to 15-fold increase in the kinase activity of Lck bound to CD5. The B cell antigen, CD72, serves as a receptor for CD5. The consequence of CD5 binding to its cognate receptor is still in question and likely plays a role in thymic selection.

REFERENCES

1. Davies, A.A., Ley, S.C. and Crumpton, M.J. 1992. CD5 is phosphorylated on tyrosine after stimulation of the T-cell antigen receptor complex. *Proc. Natl. Acad. Sci. USA* 89: 6368-6372.
2. Jamin, C., Lamour, A., Pennec, Y.L., Hirn, M., Le Goff, P. and Youinou, P. 1993. Expression of CD5 and CD72 on T and B cell subsets in rheumatoid arthritis and Sjogren's syndrome. *Clin. Exp. Immunol.* 92: 245-250.
3. Lydyard, P.M., Lamour, A., MacKenzie, L.E., Jamin, C., Mageed, R.A. and Youinou, P. 1993. CD5⁺ B cells and the immune system. *Immunol. Lett.* 38: 159-166.
4. Jones, M., Cordell, J.L., Beyers, A.D., Tse, A.G. and Mason, D.Y. 1993. Detection of T and B cells in many animal species using cross-reactive anti-peptide antibodies. *J. Immunol.* 150: 5429-5435.
5. Plater-Zyberk, C., Taylor, P.C., Blaylock, M.G. and Maini, R.N. 1994. Anti-CD5 therapy decreases severity of established disease in collagen type II induced arthritis in DBA/1 mice. *Clin. Exp. Immunol.* 98: 442-447.
6. Raab, M., Yamamoto, M. and Rudd, C.E. 1994. The T-cell antigen CD5 acts as a receptor and substrate for the protein-tyrosine kinase p56 Lck. *Mol. Cell. Biol.* 14: 2862-2870.
7. Ekerfelt, C., Ernerudh, J., Solders, G. and Vrethem, M. 1995. CD5 expression on B cells may be an activation marker for secretion of anti-myelin antibodies in patients with polyneuropathy associated with monoclonal gammopathy. *Clin. Exp. Immunol.* 101: 346-350.
8. Tarakhovsky, A., Kanner, S.B., Hombach, J., Ledbetter, J.A., Muller, J.A., Muller, W., Killeen, N. and Rajewski, K. 1995. A role for CD5 in TCR-mediated signal transduction and thymocyte selection. *Science* 269: 535-537.
9. Koskinen, R., Göbel, T.W., Tregaskes, C.A., Young, J.R. and Vainio, O. 1998. The structure of avian CD5 implies a conserved function. *J. Immunol.* 160: 4943-4950.

CHROMOSOMAL LOCATION

Genetic locus: CD5 (human) mapping to 11q12.2.

PRODUCT

CD5 (h): 293T Lysate represents a lysate of human CD5 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

CD5 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CD5 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

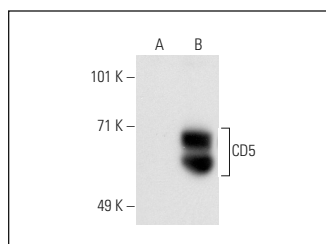
CD5 (CD5/54/F6): sc-53204 is recommended as a positive control antibody for Western Blot analysis of enhanced human CD5 expression in CD5 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



CD5 (CD5/54/F6): sc-53204. Western blot analysis of CD5 expression in non-transfected: sc-117752 (A) and human CD5 transfected: sc-114211 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.