



CD5 (KT25): sc-53475

BACKGROUND

CD5 has been identified as a 67 kDa 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 hyper-responsive 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. 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.
3. 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.
4. 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.
5. 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.
6. 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: 346-50.
7. Tarakhovskiy, 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.

CHROMOSOMAL LOCATION

Genetic locus: CD5 (human) mapping to 11q13; Cd5 (mouse) mapping to 19 A.

SOURCE

CD5 (KT25) is a mouse monoclonal antibody raised against T cell clone B9 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-53475 PE) or fluorescein (sc-53475 FITC) conjugates for flow cytometry, 100 tests.

APPLICATIONS

CD5 (KT25) is recommended for detection of CD5 of mouse origin by immunoprecipitation [1–2 μ g per 100–500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for CD5 siRNA (m): sc-35010.

Molecular Weight of CD5: 67 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein L PLUS-Agarose: sc-2336 (0.5 ml agarose/2.0 ml)..

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 or our catalog for detailed protocols and support products.