

CD5 (53-7.3): sc-18912

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 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

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2. Jamin, C., et al. 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. Jones, M., et al. 1993. Detection of T and B cells in many animal species using cross-reactive anti-peptide antibodies. *J. Immunol.* 150: 5429-5435.
4. Lydyard, P.M., et al. 1993. CD5⁺ B cells and the immune system. *Immunol. Lett.* 38: 159-166.
5. Raab, M., et al. 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. Plater-Zyberk, C., et al. 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.
7. Tarakhovsky, A., et al. 1995. A role for CD5 in TCR-mediated signal transduction and thymocyte selection. *Science* 269: 535-537.
8. Ekerfelt, C., et al. 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.
9. Koskinen, R., et al. 1998. The structure of avian CD5 implies a conserved function. *J. Immunol.* 160: 4943-4950.

CHROMOSOMAL LOCATION

Genetic locus: Cd5 (mouse) mapping to 19 A.

SOURCE

CD5 (53-7.3) is a rat monoclonal antibody immunized with antigen from mouse thymus or spleen.

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 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD5 (53-7.3) is available conjugated to either phycoerythrin (sc-18912 PE) or fluorescein (sc-18912 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

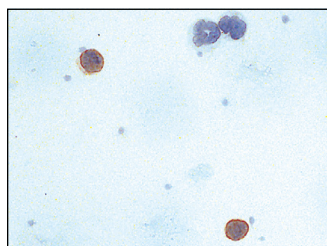
APPLICATIONS

CD5 (53-7.3) 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)], 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 μ g per 1 x 10⁶ cells).

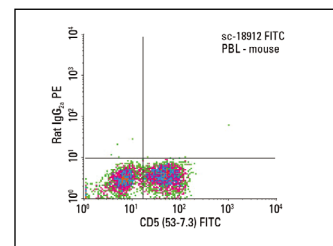
Suitable for use as control antibody for CD5 siRNA (m): sc-35010, CD5 shRNA Plasmid (m): sc-35010-SH and CD5 shRNA (m) Lentiviral Particles: sc-35010-V.

Molecular Weight of CD5: 67 kDa.

DATA



CD5 (53-7.3): sc-18912. Immunoperoxidase staining of formalin-fixed mouse peripheral blood lymphocytes showing membrane staining of lymphocytes.



CD5 (53-7.3) FITC: sc-18912 FITC. FCM analysis of mouse peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal rat IgG_{2a}-FITC: sc-2831.

SELECT PRODUCT CITATIONS

1. Brenner, O., et al. 2004. Loss of Runx3 function in leukocytes is associated with spontaneously developed colitis and gastric mucosal hyperplasia. *Proc. Natl. Acad. Sci. USA* 101: 16016-16021.

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.