

# CD5 (D-9): sc-393019

## BACKGROUND

CD5 (also designated Lyl-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- $\zeta$  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., et al. 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., et al. 1993. Expression of CD5 and CD72 on T and B cell subsets in rheumatoid arthritis and Sjögren'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<sup>+</sup> 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<sup>lck</sup>. *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. 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.
8. Tarakhovsky, A., et al. 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 11q12.2.

## SOURCE

CD5 (D-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 25-54 at the N-terminus of CD5 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393019 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

CD5 (D-9) is recommended for detection of CD5 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD5 siRNA (h): sc-35011, CD5 shRNA Plasmid (h): sc-35011-SH and CD5 shRNA (h) Lentiviral Particles: sc-35011-V.

Molecular Weight of CD5: 67 kDa.

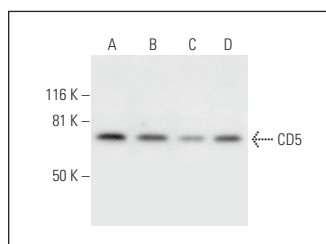
Positive Controls: HuT 78 whole cell lysate: sc-2208, CCRF-CEM cell lysate: sc-2225 or MOLT-4 cell lysate: sc-2233.

## RECOMMENDED SUPPORT REAGENTS

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

- 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CD5 (D-9): sc-393019. Western blot analysis of CD5 expression in HuT 78 (A), CCRF-CEM (B), MOLT-4 (C) and Jurkat (D) whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.