

CD5 (Y2/178): sc-53206

BACKGROUND

CD5 (also designated L_{yt}-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-z 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

- 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.
- Lydyard, P.M., et al. 1993. CD5⁺ B cells and the immune system. *Immunol. Lett.* 38: 159-166.
- 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.
- 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.
- Raab, M., et al. 1994. The T cell antigen CD5 acts as a receptor and substrate for the protein-tyrosine kinase p56lck. *Mol. Cell. Biol.* 14: 2862-2870.
- 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.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

CD5 (Y2/178) is a mouse monoclonal antibody raised against lymphocytes of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD5 (Y2/178) is available conjugated to either phycoerythrin (sc-53206 PE) or fluorescein (sc-53206 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

In addition, CD5 (Y2/178) is available conjugated to biotin (sc-53206 B), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

CD5 (Y2/178) is recommended for detection of CD5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

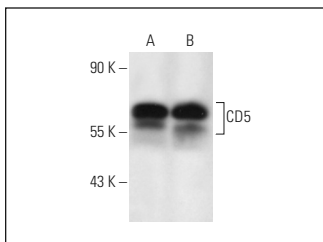
Molecular Weight of CD5: 67 kDa.

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

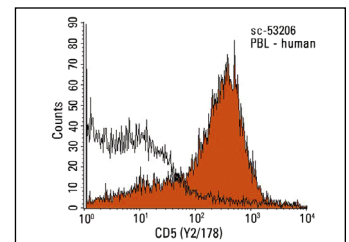
RECOMMENDED SUPPORT REAGENTS

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, 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-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.

DATA



CD5 (Y2/178): sc-53206. Western blot analysis of CD5 expression in HuT 78 (A) and CCRF-CEM (B) whole cell lysates.



CD5 (Y2/178): sc-53206. Indirect FCM analysis of human peripheral blood leukocytes stained with CD5 (Y2/178), followed by PE-conjugated goat anti-mouse IgG₁: sc-3764. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

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.