SANTA CRUZ BIOTECHNOLOGY, INC.

CD5 (L17F12): sc-18898

BACKGROUND

CD5 (also designated Lyt-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

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 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. 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.
6. 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.

CHROMOSOMAL LOCATION

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

SOURCE

CD5 (L17F12) is a mouse monoclonal antibody raised against human T-acute lymphoblastic leukemia (ALL) cells.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD5 (L17F12) is available conjugated to either phycoerythrin (sc-18898 PE) or fluorescein (sc-18898 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

CD5 (L17F12) 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 10^6 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.

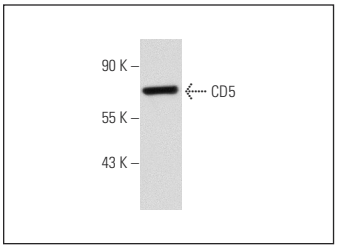
Molecular Weight of CD5: 67 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, Daudi cell lysate: sc-2415 or HuT 78 whole cell lysate: sc-2208.

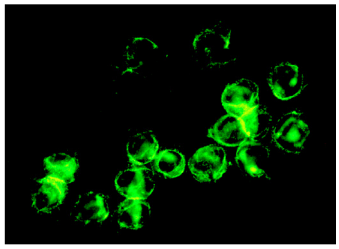
RECOMMENDED SUPPORT REAGENTS

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.

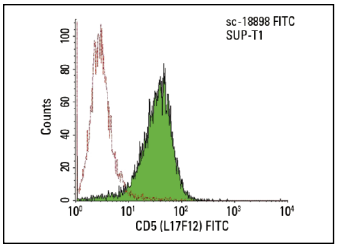
DATA



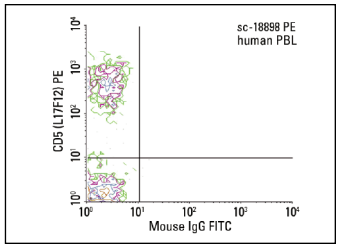
CD5 (L17F12): sc-18898. Western blot analysis of CD5 expression in 293T whole cell lysate.



CD5 (L17F12): sc-18898. Immunofluorescence staining of methanol-fixed MOLT-4 cells showing membrane localization.



CD5 (L17F12) FITC: sc-18898 FITC. FCM analysis of SUP-T1 cells. Black line histogram represents the isotype control, normal mouse IgG_{2a}: sc-2856.



CD5 (L17F12) PE: sc-18898 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG_{2a}: sc-2856.

RESEARCH USE

For research use only, not for use in diagnostic procedures.