

# CD7 (E-12): sc-48409

## BACKGROUND

CD7 (also designated T cell leukemia antigen) is a type I transmembrane glycoprotein that is expressed on pluripotential hemapoietic cells, most human thymocytes and some peripheral blood T cells. CD7 is a marker for pluripotential stem cell leukemias and T cell acute lymphocytic leukemia. A role for CD7 in the activation of T cells with  $\gamma/\delta$  receptors has been suggested. CD8 T cells from patients infected with HIV-1 displayed profound down-modulation of CD7 expression as compared with healthy subjects. CD7 is among the pan-T-cell antigens down-regulated in acute infectious mononucleosis.

## REFERENCES

- Haynes, B.F., et al. 1989. Ontogeny of T cell precursors: a model for the initial stages of human T cell development. *Immunol. Today* 10: 87-91.
- Barcena, A., et al. 1995. Tracing the expression of CD7 and other antigens during T and myeloid cell differentiation in the human fetal liver and thymus. *Leuk. Lymphoma* 17: 1-11.
- Schanberg, L.E., et al. 1995. Characterization of human CD7 transgenic mice. *J. Immunol.* 155: 2407-2418.
- Leta, E., et al. 1995. Production and characterization of the extracellular domain of human CD7 antigen: further evidence that CD7 has a role in T cell signaling. *Cell. Immunol.* 165: 101-109.
- Ward, S.G., et al. 1995. Antibody ligation of CD7 leads to association with phosphoinositide 3-kinase and phosphatidylinositol 3,4,5-triphosphate formation in T lymphocytes. *Eur. J. Immunol.* 25: 502-507.
- Weisberger, J., et al. 2003. Down-regulation of pan-T-cell antigens, particularly CD7, in acute infectious mononucleosis. *Am. J. Clin. Pathol.* 120: 49-55.
- Tiftik, N., et al. 2004. The importance of CD7 and CD56 antigens in acute leukaemias. *Int. J. Clin. Pract.* 58: 149-152.
- Aandahl, E.M., et al. 2004. Expansion of CD7<sup>low</sup> and CD7<sup>negative</sup> CD8 T cell effector subsets in HIV-1 infection: correlation with antigenic load and reversion by antiretroviral treatment. *Blood* 104: 3672-3678.

## CHROMOSOMAL LOCATION

Genetic locus: CD7 (human) mapping to 17q25.3.

## SOURCE

CD7 (E-12) is a mouse monoclonal antibody raised against amino acids 27-153 of CD7 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

CD7 (E-12) is recommended for detection of CD7 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 CD7 siRNA (h): sc-35021, CD7 shRNA Plasmid (h): sc-35021-SH and CD7 shRNA (h) Lentiviral Particles: sc-35021-V.

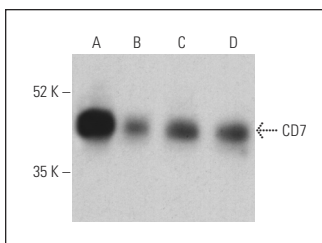
Molecular Weight of CD7: 40 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, Jurkat whole cell lysate: sc-2204 or SUP-T1 whole cell lysate: sc-364796.

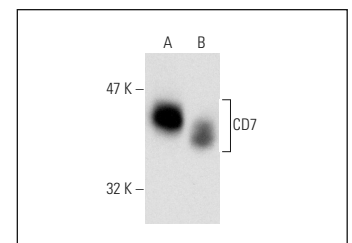
## RECOMMENDED SUPPORT REAGENTS

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



CD7 (E-12): sc-48409. Western blot analysis of CD7 expression in CCRF-CEM (A), SUP-T1 (B), MOLT-4 (C) and Hep G2 (D) whole cell lysates. Detection reagent used: m-IgG<sub>2b</sub> BP-HRP: sc-542741.



CD7 (E-12): sc-48409. Western blot analysis of CD7 expression in CCRF-CEM (A) and Jurkat (B) whole cell lysates.

## 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.