SANTA CRUZ BIOTECHNOLOGY, INC.

CD7 (3A1E-12H7): sc-19606

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD7 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 γ/δ 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

1. 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.
2. 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.
3. Schanberg, L.E., et al. 1995. Characterization of human CD7 transgenic mice. J. Immunol. 155: 2407-2418.
4. 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.
5. 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.
6. 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.
7. Tiftik, N., et al. 2004. The importance of CD7 and CD56 antigens in acute leukaemias. Int. J. Clin. Pract. 58: 149-152.
8. Aandahl, E.M., et al. 2004. Expansion of CD7(low) and CD7(negative) 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 (3A1E-12H7) is a mouse monoclonal antibody raised against human HSB2-T cells.

PRODUCT

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

Available as fluorescein (sc-19606 FITC) or phycoerythrin (sc-19606 PE) conjugates for flow cytometry, 100 tests.

RESEARCH USE

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

APPLICATIONS

CD7 (3A1E-12H7) is recommended for detection of CD7 of human origin by 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).

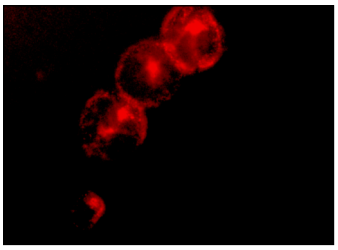
Suitable for use as control antibody for CD7 siRNA (h): sc-35021, CD7 shRNA Plasmid (h): sc-35021-SH and CD7 shRNA (h) Lentiviral Particles: sc-35021-V.

Molecular Weight of CD7: 40 kDa.

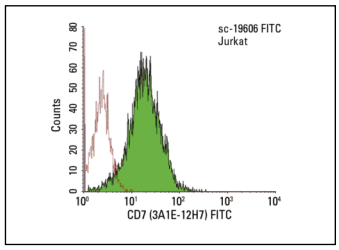
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CD7 (3A1E-12H7): sc-19606. Immunofluorescence staining of methanol-fixed Jurkat cells showing membrane staining.



CD7 (3A1E-12H7) FITC: sc-19606 FITC. FCM analysis of Jurkat cells. Black line histogram represents the isotype control, normal mouse IgG_{2b}: sc-2857.

SELECT PRODUCT CITATIONS

1. Booth, A.M., et al. 2006. Exosomes and HIV Gag bud from endosome-like domains of the T cell plasma membrane. J. Cell Biol. 172: 923-935.
2. Yu, C.Y., et al. 2007. A bipartite signal regulates the faithful delivery of apical domain marker podocalyxin/Gp135. Mol. Biol. Cell 18: 1710-1722.
3. Koh, H.S., et al. 2009. Twist2 regulates CD7 expression and galectin-1-induced apoptosis in mature T-cells. Mol. Cells 28: 553-558.

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 or our catalog for detailed protocols and support products.