SANTA CRUZ BIOTECHNOLOGY, INC.

Lyl-1 (C-4): sc-374164

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lyl-1, TAL1 and TAL2 are part of a family of basic helix-loop-helix (bHLH) proteins implicated in T cell acute leukemia. TAL1, also designated SCL, is a serine phosphoprotein and basic helix-loop-helix transcription factor known to regulate embryonic hematopoiesis. TAL2 is a protein involved in T cell acute lymphoblastic leukemia through a chromosomal translocation involving TAL2 and T cell receptor β chain genes. TAL2 includes a helix-loop-helix protein dimerization and DNA-binding domain that is homologous to TAL1 and Lyl-1 proto-oncogenes. Lyl-1 (lymphoblastic leukemia-derived sequence 1) is a nuclear protein. Endogenous Lyl-1 exists in complex with E2α proteins. Lyl-1 and E2α protein can form heterodimeric complexes with distinctive DNA-binding properties in hematolymphoid cells. Lyl-1 is involved in a chromosomal aberration which causes a form of T cell acute lymphoblastic leukemia (T-ALL).

CHROMOSOMAL LOCATION

Genetic locus: LYL1 (human) mapping to 19p13.2.

SOURCE

Lyl-1 (C-4) is a mouse monoclonal antibody raised against amino acids 188-267 mapping at the C-terminus of Lyl-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-374164 X, 200 µg/0.1 ml.

Lyl-1 (C-4) is available conjugated to agarose (sc-374164 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374164 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374164 PE), fluorescein (sc-374164 FITC), Alexa Fluor® 488 (sc-374164 AF488), Alexa Fluor® 546 (sc-374164 AF546), Alexa Fluor® 594 (sc-374164 AF594) or Alexa Fluor® 647 (sc-374164 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374164 AF680) or Alexa Fluor® 790 (sc-374164 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Lyl-1 (C-4) is recommended for detection of Lyl-1 of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 Lyl-1 siRNA (h): sc-45688, Lyl-1 shRNA Plasmid (h): sc-45688-SH and Lyl-1 shRNA (h) Lentiviral Particles: sc-45688-V.

Lyl-1 (C-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

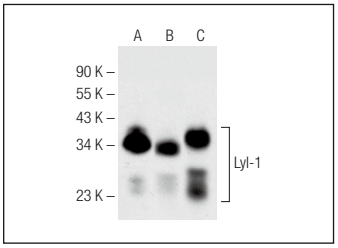
Molecular Weight of Lyl-1: 28 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HL-60 whole cell lysate: sc-2209 or U-937 cell lysate: sc-2239.

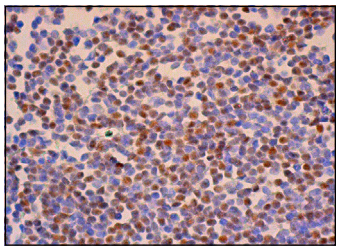
STORAGE

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

DATA



Lyl-1 (C-4): sc-374164. Western blot analysis of Lyl-1 expression in K-562 (**A**), HL-60 (**B**) and U-937 (**C**) whole cell lysates.



Lyl-1 (C-4): sc-374164. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of non-germinal center cells.

SELECT PRODUCT CITATIONS

1. Ptasinska, A., et al. 2014. Identification of a dynamic core transcriptional network in t(8;21) AML that regulates differentiation block and self-renewal. Cell Rep. 8: 1974-1988.
2. Mandoli, A., et al. 2016. The hematopoietic transcription factors RUNX1 and ERG prevent AML1-ETO oncogene overexpression and onset of the apoptosis program in t(8;21) AMLs. Cell Rep. 17: 2087-2100.
3. Chiu, S.K., et al. 2019. Shared roles for Scl and Lyl-1 in murine platelet production and function. Blood 134: 826-835.
4. Takao, S., et al. 2021. Convergent organization of aberrant MYB complex controls oncogenic gene expression in acute myeloid leukemia. Elife 10: e65905.
5. Sang, X., et al. 2022. BRD4 inhibitor GNE-987 exerts anticancer effects by targeting super-enhancer-related gene LYL1 in acute myeloid leukemia. J. Immunol. Res. 2022: 7912484.
6. Fang, F., et al. 2022. Super-enhancer profiling identifies novel critical and targetable cancer survival gene LYL1 in pediatric acute myeloid leukemia. J. Exp. Clin. Cancer Res. 41: 225.
7. Qu, K., et al. 2024. SPI1-KLF1/LYL1 axis regulates lineage commitment during endothelial-to-hematopoietic transition from human pluripotent stem cells. iScience 27: 110409.

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.