

# Lyl-1 (F-3): sc-374165

## 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  $\beta$  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 E2 $\alpha$  proteins. Lyl-1 and E2 $\alpha$  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).

## REFERENCES

1. Cleary, M.L., et al. 1988. Chromosomal translocation involving the  $\beta$  T cell receptor gene in acute leukemia. *J. Exp. Med.* 167: 682-687.
2. Mellentin, J.D., et al. 1989. Lyl-1, a novel gene altered by chromosomal translocation in T cell leukemia, codes for a protein with a helix-loop-helix DNA-binding motif. *Cell* 58: 77-83.
3. Kuo, S.S., et al. 1991. Structure, chromosome mapping, and expression of the mouse Lyl-1 gene. *Oncogene* 6: 961-968.
4. Goldfarb, A.N., et al. 1992. T cell acute lymphoblastic leukemia—the associated gene SCL/TAL codes for a 42 kDa nuclear phosphoprotein. *Blood* 80: 2858-2866.
5. Trask, B., et al. 1993. Fluorescence *in situ* hybridization mapping of human chromosome 19: cytogenetic band location of 540 cosmids and 70 genes or DNA markers. *Genomics* 15: 133-145.
6. Wadman, I., et al. 1994. Specific *in vivo* association between the bHLH and LIM proteins implicated in human T cell leukemia. *EMBO J.* 13: 4831-4839.
7. SWISS-PROT/TrEMBL (P12980). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

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

## SOURCE

Lyl-1 (F-3) 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  $\mu$ g IgG<sub>2a</sub> 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-374165 X, 200  $\mu$ g/0.1 ml.

## STORAGE

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

## APPLICATIONS

Lyl-1 (F-3) 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  $\mu$ 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 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 (F-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

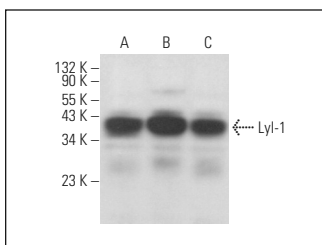
Molecular Weight of Lyl-1: 28 kDa.

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

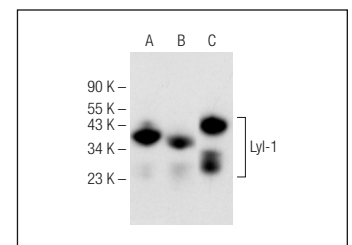
## RECOMMENDED SUPPORT REAGENTS

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



Lyl-1 (F-3): sc-374165. Western blot analysis of Lyl-1 expression in K-562 (A), TF-1 (B) and HEL 92.1.7 (C) whole cell lysates.



Lyl-1 (F-3): sc-374165. Western blot analysis of Lyl-1 expression in K-562 (A), HL-60 (B) and U-937 (C) 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.