



## Lyl-1 (C-14): sc-46157

### 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

- Cleary, M.L., Mellentin, J.D., Spies, J. and Smith, S.D. 1988. Chromosomal translocation involving the  $\beta$  T cell receptor gene in acute leukemia. *J. Exp. Med.* 167: 682-687.
- Mellentin, J.D., Smith, S.D. and Cleary, M.L. 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.
- Kuo, S.S., Mellentin, J.D., Copeland, N.G., Gilbert, D.J., Jenkins, N.A. and Cleary, M.L. 1991. Structure, chromosome mapping, and expression of the mouse Lyl-1 gene. *Oncogene* 6: 961-968.
- Goldfarb, A.N., Goueli, S., Mickelson, D. and Greenberg, J.M. 1992. T cell acute lymphoblastic leukemia—the associated gene SCL/TAL codes for a 42 kDa nuclear phosphoprotein. *Blood* 80: 2858-2866.
- Trask, B., Fertitta, A., Christensen, M., Youngblom, J., Bergmann, A., Copeland, A., de Jong, P., Mohrenweiser, H., Olsen, A., Carrano, A., 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.
- Wadman, I., Li, J., Bash, R.O., Forster, A., Osada, H., Rabbitts, T.H. and Baer, R. 1994. Specific *in vivo* association between the bHLH and LIM proteins implicated in human T cell leukemia. *EMBO J.* 13: 4831-4839.
- 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; Lyl1 (mouse) mapping to 8 C3.

### SOURCE

Lyl-1 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Lyl-1 of human origin.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46157 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Lyl-1 (C-14) is recommended for detection of Lyl-1 of human, rat and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 and Lyl-1 siRNA (m): sc-45689.

Molecular Weight of Lyl-1: 28 kDa.

Positive Controls: BLIN-3 cell lysate or JM1 cell lysate.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### STORAGE

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

### RESEARCH USE

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