

TAL1 (h): 293T Lysate: sc-172270

BACKGROUND

Activation of TAL1 characterizes up to 60% of cases of human T cell acute lymphoblastic leukemia, making it the most frequent gain-of-function mutation observed in this disorder. TAL1 (also designated SCL) is a serine phosphoprotein and basic helix-loop-helix transcription factor known to regulate embryonic hematopoiesis. This transcription factor binds as a heterodimer with E2A and HEB/HTF4 to a nucleotide sequence motif termed the E-box. In addition, leukemogenesis is accelerated dramatically by transgenic co-expression of TAL1 and the catalytic subunit of casein kinase II α , a serine/threonine protein kinase known to modulate the activity of other bHLH transcription factors.

REFERENCES

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2. Bash, R.O., et al. 1995. Does activation of the TAL1 gene occur in a majority of patients with T-cell acute lymphoblastic leukemia? A pediatric oncology group study. *Blood* 86: 666-676.
3. Chetty, R., et al. 1996. An immunohistochemical study of TAL1 protein expression in leukaemias and lymphomas with a novel monoclonal antibody, 2TL 242. *J. Pathol.* 178: 311-315.
4. Kelliher, M.A., et al. 1996. TAL1 induces T cell acute lymphoblastic leukemia accelerated by casein kinase II α . *EMBO J.* 15: 5160-5166.
5. Huang, S., et al. 2000. mSin3A regulates murine erythroleukemia cell differentiation through association with the TAL1 (or SCL) transcription factor. *Mol. Cell. Biol.* 20: 2248-2259.
6. O'Neil, J., et al. 2001. The DNA binding activity of TAL1 is not required to induce leukemia/lymphoma in mice. *Oncogene* 20: 3897-3905.
7. Lazrak, M., et al. 2004. The bHLH TAL1/SCL regulates endothelial cell migration and morphogenesis. *J. Cell Sci.* 117: 1161-1171.
8. Giroux, S., et al. 2007. Iyl-1 and TAL1/SCL, two genes encoding closely related bHLH transcription factors, display highly overlapping expression patterns during cardiovascular and hematopoietic ontogeny. *Gene Expr. Patterns* 7: 215-226.
9. Deleuze, V., et al. 2007. TAL1/SCL and its partners E47 and LM02 up-regulate VE-cadherin expression in endothelial cells. *Mol. Cell. Biol.* 27: 2687-2697.

CHROMOSOMAL LOCATION

Genetic locus: TAL1 (human) mapping to 1p33.

PRODUCT

TAL1 (h): 293T Lysate represents a lysate of human TAL1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

TAL1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TAL1 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

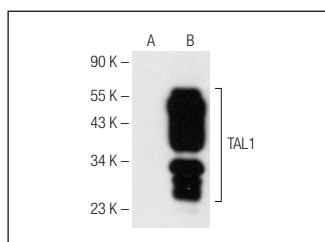
TAL1 (E-4): sc-365527 is recommended as a positive control antibody for Western Blot analysis of enhanced human TAL1 expression in TAL1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

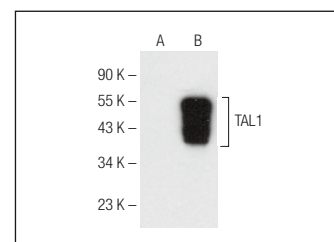
To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



TAL1 (E-4): sc-365527. Western blot analysis of TAL1 expression in non-transfected: sc-117752 (A) and human TAL1 transfected: sc-172270 (B) 293T whole cell lysates.



TAL1 (2TL242): sc-53450. Western blot analysis of TAL1 expression in non-transfected: sc-117752 (A) and human TAL1 transfected: sc-172270 (B) 293T whole cell lysates.

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.