

TAL1 (2TL242): sc-53450

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 phospho-protein 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 TAL-1 and the catalytic subunit of casein kinase II α , a serine/threonine protein kinase known to modulate the activity of other β HLH transcription factors.

REFERENCES

1. Hsu, H.L., et al. 1991. Enhancer-binding activity of the TAL1 oncoprotein in association with the E47/E12 helix-loop-helix proteins. *Mol. Cell. Biol.* 11: 3037-3042.
2. Pulford, K., et al. 1995. Expression of TAL1 proteins in human tissues. *Blood* 85: 675-684.
3. Bernard, M., et al. 1995. Nuclear localization of the SCL/TAL1 basic helix-loop-helix protein is not dependent on the presence of the basic domain. *Blood* 85: 3356-3357.
4. 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.
5. Kelliher, M.A., et al. 1996. TAL1 induces T cell acute lymphoblastic leukemia accelerated by casein kinase II α . *EMBO J.* 15: 5160-5166.
6. 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.
7. Chetty, R., et al. 1997. TAL1 protein expression in vascular lesions. *J. Pathol.* 181: 311-315.
8. Huang, S. and Brandt, S.J. 2000. mSin3A regulates murine erythroleukemia cell differentiation through association with the TAL1 (or SCL) transcription factor. *Mol. Cell. Biol.* 20: 2248-2259.

CHROMOSOMAL LOCATION

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

SOURCE

TAL1 (2TL242) is a mouse monoclonal antibody raised against recombinant TAL1 protein of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

TAL1 (2TL242) is recommended for detection of TAL1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TAL1 siRNA (h): sc-36608, TAL1 shRNA Plasmid (h): sc-36608-SH and TAL1 shRNA (h) Lentiviral Particles: sc-36608-V.

Molecular Weight of full-length TAL1: 42 kDa.

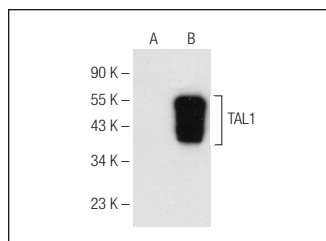
Molecular Weight of truncated TAL1: 24 kDa.

Positive Controls: TAL1 (h): 293T Lysate: sc-172270, K-562 nuclear extract: sc-2130 or Jurkat whole cell lysate: sc-2204.

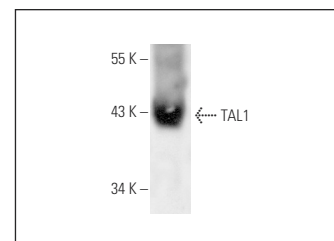
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



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.



TAL1 (2TL242): sc-53450. Western blot analysis of TAL1 expression in Jurkat whole cell lysate.

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 for detailed protocols and support products.