

# TAL1 (E-4): sc-365527

## 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 $\alpha$ , a serine/threonine protein kinase known to modulate the activity of other bHLH 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. 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 $\alpha$ . *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.

## CHROMOSOMAL LOCATION

Genetic locus: TAL1 (human) mapping to 1p33; Tal1 (mouse) mapping to 4 D1.

## SOURCE

TAL1 (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 306-331 at the C-terminus of TAL1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgM 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-365527 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-365527 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

TAL1 (E-4) is recommended for detection of TAL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

TAL1 (E-4) is also recommended for detection of TAL1 in additional species, including canine and bovine.

Suitable for use as control antibody for TAL1 siRNA (h): sc-36608, TAL1 siRNA (m): sc-36609, TAL1 shRNA Plasmid (h): sc-36608-SH, TAL1 shRNA Plasmid (m): sc-36609-SH, TAL1 shRNA (h) Lentiviral Particles: sc-36608-V and TAL1 shRNA (m) Lentiviral Particles: sc-36609-V.

TAL1 (E-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of full-length TAL1: 42 kDa.

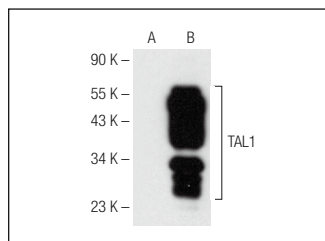
Molecular Weight of truncated TAL1: 24 kDa.

Positive Controls: TAL1 (h): 293T Lysate: sc-172270, CCRF-CEM nuclear extract: sc-2146 or Jurkat nuclear extract: sc-2132.

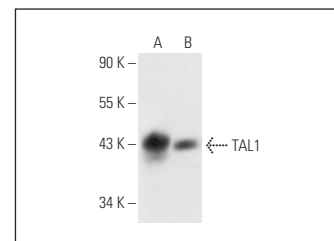
## RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



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 (E-4): sc-365527. Western blot analysis of TAL1 expression in CCRF-CEM (A) and Jurkat (B) nuclear extracts.

## RESEARCH USE

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