

TAL1 (C-21): sc-12984

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 TAL1 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.

CHROMOSOMAL LOCATION

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

SOURCE

TAL1 (C-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TAL1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12984 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TAL1 (C-21) 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 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TAL1 (C-21) is also recommended for detection of TAL1 in additional species, including equine, canine, bovine and porcine.

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 (C-21) 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: K-562 nuclear extract: sc-2130, TAL1 (h): 293T Lysate: sc-172270 or Jurkat nuclear extract: sc-2132.

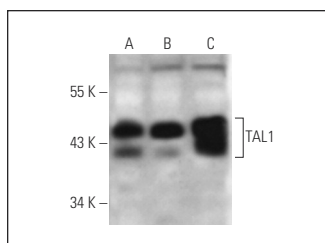
STORAGE

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

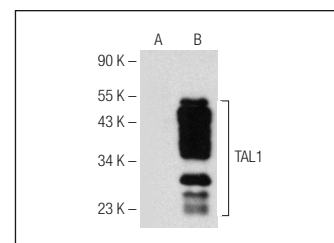
RESEARCH USE

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

DATA



TAL1 (C-21): sc-12984. Western blot analysis of TAL1 expression in CCRF-CEM (A), Jurkat (B) and K-562 (C) nuclear extracts.



TAL1 (C-21): sc-12984. Western blot analysis of TAL1 expression in non-transfected: sc-117752 (A) and human TAL1 transfected: sc-172270 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tripic, T., et al. 2009. SCL and associated proteins distinguish active from repressive GATA transcription factor complexes. *Blood* 113: 2191-2201.
2. Steiner, L.A., et al. 2009. Chromatin architecture and transcription factor binding regulate expression of erythrocyte membrane protein genes. *Mol. Cell. Biol.* 29: 5399-5412.
3. Courtial, N., et al. 2012. Tal1 regulates osteoclast differentiation through suppression of the master regulator of cell fusion DC-STAMP. *FASEB J.* 26: 523-532.
4. Lichtinger, M., et al. 2012. RUNX1 reshapes the epigenetic landscape at the onset of haematopoiesis. *EMBO J.* 31: 4318-4333.
5. Deleuze, V., et al. 2012. Angiotensin-2 is a direct transcriptional target of TAL1, LYL1 and LMO2 in endothelial cells. *PLoS ONE* 7: e40484.
6. Kim, Y.W. and Kim, A. 2013. Histone acetylation contributes to chromatin looping between the locus control region and globin gene by influencing hypersensitive site formation. *Biochim. Biophys. Acta* 1829: 963-969.
7. Su, M.Y., et al. 2013. Identification of biologically relevant enhancers in human erythroid cells. *J. Biol. Chem.* 288: 8433-8444.
8. El Omari, K., et al. 2013. Structural basis for LMO2-driven recruitment of the SCL:E47bHLH heterodimer to hematopoietic-specific transcriptional targets. *Cell Rep.* 4: 135-147.
9. Ludwig, L.S., et al. 2014. Altered translation of GATA1 in Diamond-Blackfan anemia. *Nat. Med.* 20: 748-753.



Try **TAL1 (C-4): sc-393287** or **TAL1 (B-8): sc-393288**, our highly recommended monoclonal alternatives to TAL1 (C-21).