SANTA CRUZ BIOTECHNOLOGY, INC.

TAL1 (C-4): sc-393287

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 IIα, a serine/threonine protein kinase known to modulate the activity of other bHLH transcription factors.

CHROMOSOMAL LOCATION

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

SOURCE

TAL1 (C-4) is a mouse monoclonal antibody raised against amino acids 272-331 mapping at the C-terminus of TAL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-393287 X, 200 µg/0.1 ml.

TAL1 (C-4) is available conjugated to agarose (sc-393287 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393287 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393287 PE), fluorescein (sc-393287 FITC), Alexa Fluor® 488 (sc-393287 AF488), Alexa Fluor® 546 (sc-393287 AF546), Alexa Fluor® 594 (sc-393287 AF594) or Alexa Fluor® 647 (sc-393287 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393287 AF680) or Alexa Fluor® 790 (sc-393287 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TAL1 (C-4) is recommended for detection of TAL1 pp42, pp39 and pp22 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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-4) is also recommended for detection of TAL1 pp42, pp39 and pp22 isoforms in additional species, including canine.

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

Molecular Weight of full-length TAL1: 42 kDa.

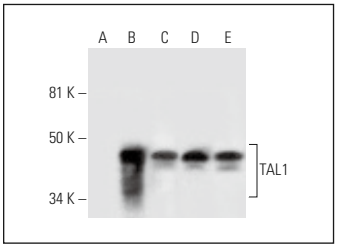
Molecular Weight of truncated TAL1: 24 kDa.

Positive Controls: TAL1 (h): 293T Lysate: sc-172270, K-562 nuclear extract: sc-2130 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.

DATA



TAL1 (C-4): sc-393287. Western blot analysis of TAL1 expression in non-transfected: sc-117752 (**A**) and human TAL1 transfected: sc-172270 (**B**) 293T whole cell lysates and K-562 (**C**), Jurkat (**D**) and CCRF-CEM (**E**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Li, Z., et al. 2018. Suppression of m^{6}A reader YTHDF2 promotes hematopoietic stem cell expansion. Cell Res. 28: 904-917.
2. Su, H., et al. 2018. SHQ1 regulation of RNA splicing is required for T-lymphoblastic leukemia cell survival. Nat. Commun. 9: 4281.
3. Wang, H., et al. 2018. Deletion of the von Hippel-Lindau gene in hemangioblasts causes hemangioblastoma-like lesions in murine retina. Cancer Res. 78: 1266-1274.
4. Jiang, J., et al. 2020. Direct phosphorylation and stabilization of Myc by Aurora B kinase promote T-cell leukemogenesis. Cancer Cell 37: 200-215.e5.
5. Hu, J., et al. 2021. WEE1 inhibition induces glutamine addiction in T-cell acute lymphoblastic leukemia. Haematologica 106: 1816-1827.
6. Wright, W.E., et al. 2021. FOXP1 interacts with MyoD to repress its transcription and myoblast conversion. J. Cell. Signal. 2: 9-26.
7. Song, X., et al. 2021. Synergistic targeting of CHK1 and mTOR in MYC-driven tumors. Carcinogenesis 42: 448-460.
8. Li, M., et al. 2021. Regulation of MYB by distal enhancer elements in human myeloid leukemia. Cell Death Dis. 12: 223.
9. Chen, Z., et al. 2023. Integrative dissection of gene regulatory elements at base resolution. Cell Genom. 3: 100318.

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.