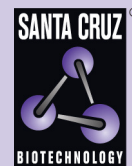


## cyclin T1 (T-18): sc-8127



The Power to Question

## BACKGROUND

Cyclin T1 was identified as a partner for Cdk9, an RNA polymerase II (RNAPII) transcription elongation factor. Cyclin T1 interacts with the transactivation domain of the HIV-1 Tat protein. The interaction of Tat with cyclin T1 enhances the affinity of Tat for the viral TAR RNA stem-loop structure, suggesting that Tat can recruit cyclin T1/Cdk9 to RNAPII through cooperative binding to TAR. The human positive transcription elongation factor  $\beta$  (P-TEF $\beta$ ) consists of a cyclin dependent kinase, Cdk9, paired with a cyclin T. Cdk9 may be paired with either cyclin T1 or cyclin T2, in a mutually exclusive manner. Two forms of cyclin T2, T2a and T2b, are due to alternative splicing. The binding of Tat to TAR was shown to be facilitated by human cyclin T1, but not by cyclins T2a or T2b. Cyclin T2 binds to Cdk9 but not to Tat, and cyclin T2 can inhibit cyclin T1-mediated Tat activity.

## CHROMOSOMAL LOCATION

Genetic locus: CCNT1 (human) mapping to 12q13.11.

## SOURCE

cyclin T1 (T-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of cyclin T1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-8127 X, 200  $\mu$ g/0.1 ml.

cyclin T1 (T-18) is available conjugated to agarose (sc-8127 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8127 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; and to fluorescein (sc-8127 FITC, 200  $\mu$ g/ml), for IF, IHC(P) and FCM.

In addition, cyclin T1 (T-18) is available conjugated to TRITC (sc-8127 TRITC, 200  $\mu$ g/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-8127 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

cyclin T1 (T-18) is recommended for detection of cyclin T1 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cyclin T1 siRNA (h): sc-35143, cyclin T1 shRNA Plasmid (h): sc-35143-SH and cyclin T1 shRNA (h) Lentiviral Particles: sc-35143-V.

cyclin T1 (T-18) X TransCruz antibody is recommended for ChIP assays.

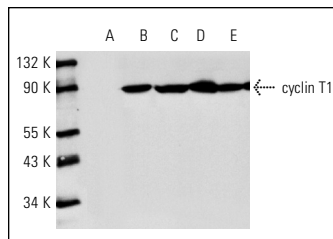
Molecular Weight of cyclin T1: 87 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132.

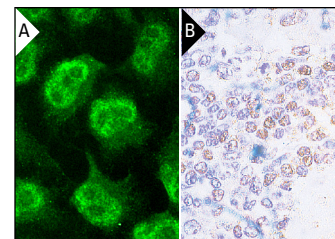
## STORAGE

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

## DATA



cyclin T1 (T-18): sc-8127. Western blot analysis of cyclin T1 expression in Jurkat (A), HeLa (B), K-562 (C), A-431 (D) and Y79 (E) nuclear extracts.



cyclin T1 (T-18): sc-8127. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymph node showing nuclear localization (B).

## SELECT PRODUCT CITATIONS

1. Cook, J.A., et al. 2002. Recruitment of phosphatidylinositol 3-kinase to CD28 inhibits HIV transcription by a Tat-dependent mechanism. *J. Immunol.* 169: 254-260.
2. Yoon, Y.J., et al. 2011. KRIBB11 inhibits HSP70 synthesis through inhibition of heat shock factor 1 function by impairing the recruitment of positive transcription elongation factor  $\beta$  to the hsp70 promoter. *J. Biol. Chem.* 286: 1737-1747.
3. Blazek, D., et al. 2011. The Cyclin K/Cdk12 complex maintains genomic stability via regulation of expression of DNA damage response genes. *Genes Dev.* 25: 2158-2172.
4. Vijayalingam, S. and Chinnadurai, G. 2013. Adenovirus L-E1A activates transcription through mediator complex-dependent recruitment of the super elongation complex. *J. Virol.* 87: 3425-3434.
5. Graf, L., et al. 2013. The cyclin-dependent kinase ortholog pUL97 of human cytomegalovirus interacts with cyclins. *Viruses* 5: 3213-3230.
6. Madak-Erdogan, Z., et al. 2014. Novel roles for ERK5 and cofilin as critical mediators linking ER $\alpha$ -driven transcription, actin reorganization, and invasiveness in breast cancer. *Mol. Cancer Res.* 12: 714-727.

## RESEARCH USE

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



Try **cyclin T1 (E-3): sc-271348** or **cyclin T1 (E-6): sc-271576**, our highly recommended monoclonal alternatives to cyclin T1 (T-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **cyclin T1 (E-3): sc-271348**.