

# cyclin T1 (C-20): sc-8128

## 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; Ccnt1 (mouse) mapping to 15 F1.

## SOURCE

cyclin T1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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.

Blocking peptide available for competition studies, sc-8128 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

cyclin T1 (C-20) is recommended for detection of cyclin T1 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).

Suitable for use as control antibody for cyclin T1 siRNA (h): sc-35143, cyclin T1 siRNA (m): sc-35144, cyclin T1 shRNA Plasmid (h): sc-35143-SH, cyclin T1 shRNA Plasmid (m): sc-35144-SH, cyclin T1 shRNA (h) Lentiviral Particles: sc-35143-V and cyclin T1 shRNA (m) Lentiviral Particles: sc-35144-V.

Molecular Weight of cyclin T1: 87 kDa.

Positive Controls: Y79 nuclear extract: sc-2126, HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

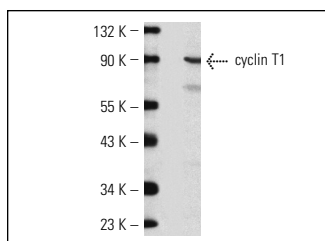
## STORAGE

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

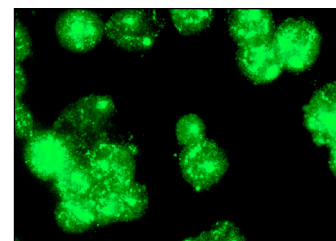
## RESEARCH USE

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

## DATA



cyclin T1 (C-20): sc-8128. Western blot analysis of cyclin T1 expression in Y79 nuclear extract.



cyclin T1 (C-20): sc-8128. Immunofluorescence staining of methanol-fixed Y79 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Ramanathan, Y., et al. 2001. Three RNA polymerase II carboxyl-terminal domain kinases display distinct substrate preferences. *J. Biol. Chem.* 276: 10913-10920.
- Eberhardy, S., et al. 2001. c-Myc mediates activation of the cad promoter via a post-RNA polymerase II recruitment mechanism. *J. Biol. Chem.* 276: 48562-48571.
- West, M.J., et al. 2001. Activation of human immunodeficiency virus transcription in T cells revisited: NF $\kappa$ B p65 stimulates transcriptional elongation. *J. Virol.* 75: 8524-8537.
- Bourgeois, C.F., et al. 2002. Spt5 cooperates with human immunodeficiency virus type 1 Tat by preventing premature RNA release at terminator sequences. *Mol. Cell. Biol.* 22: 1079-1093.
- Kim, Y.K., et al. 2002. Phosphorylation of the RNA polymerase II carboxyl-terminal domain by CDK9 is directly responsible for human immunodeficiency virus type 1 Tat-activated transcriptional elongation. *Mol. Cell. Biol.* 22: 4622-4637.
- Wells, J., et al. 2003. Identification of novel pRb binding sites using CpG microarrays suggests that E2F recruits pRb to specific genomic sites during S phase. *Oncogene* 22: 1445-1460.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **cyclin T1 (E-3): sc-271348** or **cyclin T1 (E-6): sc-271576**, our highly recommended monoclonal alternatives to cyclin T1 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **cyclin T1 (E-3): sc-271348**.