

# cyclin T1 (N-19): sc-8126

## 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 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-8126 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

cyclin T1 (N-19) 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).

cyclin T1 (N-19) is also recommended for detection of cyclin T1 in additional species, including equine, canine, bovine and porcine.

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.

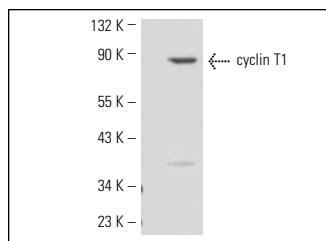
Molecular Weight of cyclin T1: 87 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HeLa nuclear extract: sc-2120 or A-431 nuclear extract: sc-2122.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



cyclin T1 (N-19): sc-8126. Western blot analysis of cyclin T1 expression in A-431 nuclear extract.

## SELECT PRODUCT CITATIONS

1. Richter, S., et al. 2002. TAR RNA loop: a scaffold for the assembly of a regulatory switch in HIV replication. *Proc. Natl. Acad. Sci. USA* 99: 7928-7933.

## STORAGE

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

## 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 (N-19). 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**.