SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin T2b (C-18): sc-9532

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 b (P-TEFb) 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: CCNT2 (human) mapping to 2q21.3; Ccnt2 (mouse) mapping to 1 E3.

SOURCE

cyclin T2b (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of cyclin T2b of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-9532 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

cyclin T2b (C-18) is recommended for detection of cyclin T2b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

cyclin T2b (C-18) is also recommended for detection of cyclin T2b in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cyclin T2a/b siRNA (h): sc-37601, cyclin T2a/b siRNA (m): sc-37602, cyclin T2a/b shRNA Plasmid (h): sc-37601-SH, cyclin T2a/b shRNA Plasmid (m): sc-37602-SH, cyclin T2a/b shRNA (h) Lentiviral Particles: sc-37601-V and cyclin T2a/b shRNA (m) Lentiviral Particles: sc-37602-V.

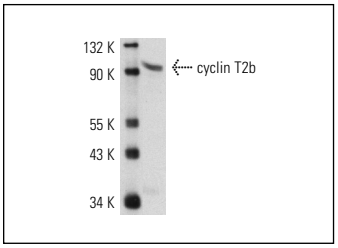
Molecular Weight of cyclin T2b: 91 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or cyclin T2a/b (m): 293T Lysate: sc-119550.

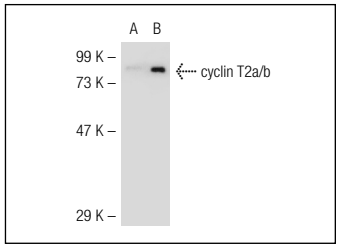
RECOMMENDED SECONDARY REAGENTS

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ 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™ Mounting Medium: sc-24941.

DATA



cyclin T2b (C-18): sc-9532. Western blot analysis of cyclin T2b expression in HeLa nuclear extract.



cyclin T2b (C-18): sc-9532. Western blot analysis of cyclin T2a/b expression in non-transfected: sc-117752 (**A**) and mouse cyclin T2a/b transfected: sc-119550 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Herrmann, C.H., et al. 2001. The Cdk9 and cyclin T subunits of TAK/P-TEFb localize to splicing factor-rich nuclear speckle regions. J. Cell Sci. 114: 1491-1503.
2. Marchesi, I., et al. 2013. Activation and function of murine Cyclin T2A and Cyclin T2B during skeletal muscle differentiation. J. Cell. Biochem. 114: 728-734.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.