SANTA CRUZ BIOTECHNOLOGY, INC.

Cdk7 (FL-346): sc-856

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Progression through the cell cycle requires activation of a series of enzymes designated cyclin dependent kinases (Cdks). The monomeric catalytic subunit Cdk2, a critical enzyme for initiation of cell cycle progression, is completely inactive. Partial activation is achieved by the binding of regulatory cyclins such as cyclin D1, while full activation requires additional phosphorylation at Thr 160. The enzyme responsible for the phosphorylation of Cdk2 on Thr 160 and also of Cdc2 p34 on Thr 161, designated Cdk-activating kinase (CAK), has been partially purified and shown to be comprised of a catalytic subunit and a regulatory subunit. The catalytic subunit, designated Cdk7, has been identified as the mammalian homolog of MO15, a protein kinase demonstrated in starfish and *Xenopus*. The regulatory subunit is a novel cyclin (cyclin H) and is required for activation of Cdk7. Like other Cdks, Cdk7 contains a conserved threonine residue required for full activity; mutation of this residue severely reduces CAK activity.

CHROMOSOMAL LOCATION

Genetic locus: CDK7 (human) mapping to 5q13.2; Cdk7 (mouse) mapping to 13 D1.

SOURCE

Cdk7 (FL-346) is a rabbit polyclonal antibody raised against amino acids 1-346 representing full length Cdk7 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.

Available as TransCruz reagent for ChIP application, sc-856 X, 200 µg/0.1 ml.

APPLICATIONS

Cdk7 (FL-346) is recommended for detection of Cdk7 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).

Cdk7 (FL-346) is also recommended for detection of Cdk7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Cdk7 siRNA (h): sc-29266, Cdk7 siRNA (m): sc-29265, Cdk7 shRNA Plasmid (h): sc-29266-SH, Cdk7 shRNA Plasmid (m): sc-29265-SH, Cdk7 shRNA (h) Lentiviral Particles: sc-29266-V and Cdk7 shRNA (m) Lentiviral Particles: sc-29265-V.

Cdk7 (FL-346) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of Cdk7 isoforms: 42/37 kDa.

Positive Controls: Cdk7 (h): 293 Lysate: sc-110468, Cdk7 (m): 293T Lysate: sc-119151 or HeLa nuclear extract: sc-2120.

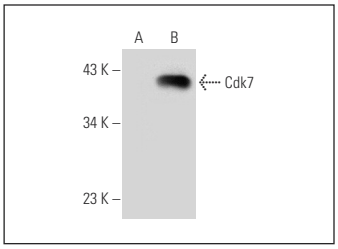
RESEARCH USE

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

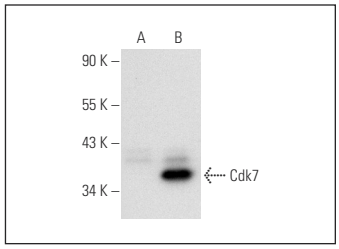
STORAGE

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

DATA



Cdk7 (FL-346): sc-856. Western blot analysis of Cdk7 expression in non-transfected: sc-110760 (**A**) and human Cdk7 transfected: sc-110468 (**B**) 293 whole cell lysates.



Cdk7 (FL-346): sc-856. Western blot analysis of Cdk7 expression in non-transfected: sc-117752 (**A**) and mouse Cdk7 transfected: sc-119151 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tetsu, O., et al. 1998. Mel-18 negatively regulates cell cycle progression upon B cell antigen receptor stimulation through a cascade leading to c-Myc/Cdc25. Immunity 9: 439-448.
2. Metivier, R., et al. 2003. Estrogen receptor α directs ordered, cyclical, and combinatorial recruitment of cofactors on a natural target promoter. Cell 115: 751-763.
3. Valley, C.C., et al. 2005. Differential regulation of estrogen-inducible proteolysis and transcription by the estrogen receptor α N terminus. Mol. Cell. Biol. 25: 5417-5428.
4. Pasder, O., et al. 2006. Downregulation of Fer induces PP1 activation and cell-cycle arrest in malignant cells. Oncogene 25: 4194-4206.
5. Kim, Y.K., et al. 2006. Recruitment of TFIIH to the HIV LTR is a rate-limiting step in the emergence of HIV from latency. EMBO J. 25: 3596-3604.
6. Vernimmen, D., et al. 2007. Long-range chromosomal interactions regulate the timing of the transition between poised and active gene expression. EMBO J. 26: 2041-2051.
7. Skirrow, R.C., et al. 2008. Roscovitine inhibits thyroid hormone-induced tail regression of the frog tadpole and reveals a role for cyclin C/Cdk8 in the establishment of the metamorphic gene expression program. Dev. Dyn. 237: 3787-3797.
8. Pulvino, M., et al. 2015. Inhibition of COP9-signalosome (CSN) deneddylating activity and tumor growth of diffuse large B-cell lymphomas by doxycycline. Oncotarget 6: 14796-14813.

MONOS Satisfaction Guaranteed

Try **Cdk7 (C-4): sc-7344** or **Cdk7 (C-5): sc-365075**, our highly recommended monoclonal aternatives to Cdk7 (FL-346). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Cdk7 (C-4): sc-7344**.