SANTA CRUZ BIOTECHNOLOGY, INC.

Cdk10 (K-14): sc-51267

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The Power to Question

BACKGROUND

Cell cycle progression is controlled, in part, by a family of cyclin dependent kinases (Cdks) that work to phosphorylate key substrates involved in each phase of cell cycle progression. Cdks are the catalytic subunits of serine/threonine protein kinases, a large family of proteins that act as regulators of the eukaryotic cell cycle. Several Cdk family members have been identified, including Cdc2 p34, Cdk2-10, PITSLRE, PCTAIRE-1–3, KKIAMRE, KKIALRE, CDKN3 and NKIAMRE. Cdk10, also called PISSLRE, is a Cdc2-related kinase whose gene has been shown to encode two isoforms, each having a different function within the cell cycle. Although the two isoforms share nearly identical amino acid seqeunces, they differ at the C- and N- terminals. One Cdk isoform interacts with the transcription factor Ets-2, thereby modulating its transactivation activity, while the other is thought to have a role at the G_2/M transition. Cdk10 mRNA has been shown to have the highest expression in lung, liver and kidney tissue, with gene upregulation implicated in cases of non-Hodgkin's follicular lymphoma.

REFERENCES

1. Brambilla, R. and Draetta, G. 1994. Molecular cloning of PISSLRE, a novel putative member of the Cdk family of protein serine/threonine kinases. Oncogene 9: 3037-3041.
2. Sergère, J.C., Thuret, J.Y., Le Roux, G., Carosella, E.D. and Leteurtre, F. 2000. Human Cdk10 gene isoforms. Biochem. Biophys. Res. Commun. 276: 271-277.
3. Husson, H., Carideo, E.G., Neuberg, D., Schultze, J., Munoz, O., Marks, P.W., Donovan, J.W., Chillemi, A.C., O'Connell, P. and Freedman, A.S. 2001. Gene expression profiling of follicular lymphoma and normal germinal center B cells using cDNA arrays. Blood 99: 282-289.
4. Kasten, M. and Giordano, A. 2001. Cdk10, a Cdc2-related kinase, associates with the Ets-2 transcription factor and modulates its transactivation activity. Oncogene 20: 1832-1838.
5. Guo, Z. and Stiller, J.W. 2004. Comparative genomics of cyclin-dependent kinases suggest co-evolution of the RNAP II C-terminal domain and CTD-directed Cdks. BMC Genomics 5: 69-69.

CHROMOSOMAL LOCATION

Genetic locus: CDK10 (human) mapping to 16q24.3; Cdk10 (mouse) mapping to 8 E1.

SOURCE

Cdk10 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Cdk10 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-51267 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cdk10 (K-14) is recommended for detection of Cdk10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Cdk10 (K-14) is also recommended for detection of Cdk10 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Cdk10 siRNA (h): sc-72226, Cdk10 siRNA (m): sc-72227, Cdk10 shRNA Plasmid (h): sc-72226-SH, Cdk10 shRNA Plasmid (m): sc-72227-SH, Cdk10 shRNA (h) Lentiviral Particles: sc-72226-V and Cdk10 shRNA (m) Lentiviral Particles: sc-72227-V.

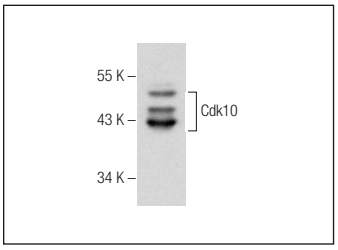
Molecular Weight of Cdk10: 38.5 kDa.

Positive Controls: T-47D whole cell lysate: sc-364193, Jurkat whole cell lysate: sc-2204 or HISM cell lysate: sc-2229.

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) 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



Cdk10 (K-14): sc-51267. Western blot analysis of Cdk10 expression in T-47D whole cell lysate.

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.