SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin A (H-432): sc-751

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The critical role that the family of regulatory proteins known as cyclins play in eukaryotic cell cycle regulation is well established. The best-characterized cyclin complex is the mitotic cyclin B/Cdc2 p34 kinase, the active component of maturing promoting factor. Cyclin A accumulates prior to cyclin B in the cell cycle, appears to be involved in control of S phase and has been shown to associate with cyclin-dependent kinase-2 (Cdk2). In addition, cyclin A has been implicated in cell transformation and is found in complexes with E1A, transcription factors DRTF1 and E2F and retinoblastoma protein, p110. A second form of cyclin A, named cyclin A1 because of its high sequence homology to *Xenopus* cyclin A1, is most highly expressed in germ cells. It has been proposed that cyclin A1 can associate with Cdk2, p39 and Cdc2 p34.

CHROMOSOMAL LOCATION

Genetic locus: CCNA2 (human) mapping to 4q27, CCNA1 (human) mapping to 13q13.3; Ccna2 (mouse) mapping to 3 B, Ccna1 (mouse) mapping to 3 C.

SOURCE

cyclin A (H-432) is a rabbit polyclonal antibody raised against amino acids 1-432 representing full length cyclin A 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 agarose conjugate for immunoprecipitation, sc-751 AC, 500 µg/0.25 ml agarose in 1 ml; as TransCruz reagent for ChIP application, sc-751 X, 200 µg/0.1 ml; as HRP conjugate for Western blotting, sc-751 HRP, 200 µg/1 ml; and as fluorescein (sc-751 FITC) or rhodamine (sc-751 TRITC) conjugates for immunofluorescence, 200 µg/1 ml.

APPLICATIONS

cyclin A (H-432) is recommended for detection of cyclin A and cyclin A1 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), immunohistochemistry (including paraffin-embedded sections) (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 A (H-432) is also recommended for detection of cyclin A and cyclin A1 in additional species, including equine, canine, bovine and porcine.

cyclin A (H-432) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of cyclin A: 54 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or U-937 cell lysate: sc-2239.

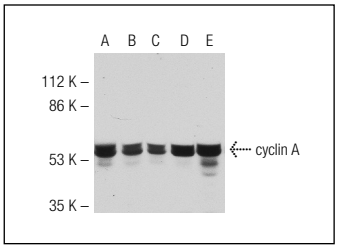
STORAGE

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

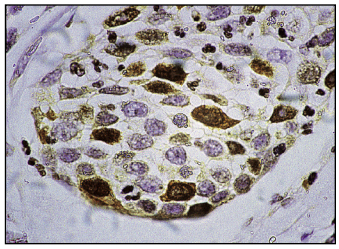
RESEARCH USE

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

DATA



cyclin A (H-432): sc-751. Western blot analysis of cyclin A expression in MCF7 (**A**), SK-BR-3 (**B**), A-431 (**C**), HeLa (**D**) and U-937 (**E**) whole cell lysates.



cyclin A (H-432): sc-751. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Deverman, B., et al. 2002. Bcl-x_L deamidation is a critical switch in the regulation of the response to DNA damage. Cell 111: 51-62.
2. Acevedo-Duncan, M., et al. 2002. Human glioma PKC-ι and PKC-βII phosphorylate cyclin-dependent kinase activating kinase during the cell cycle. Cell Prolif. 35: 23-36.
3. Diamant, N., et al. 2012. DNA damage bypass operates in the S and G2 phases of the cell cycle and exhibits differential mutagenicity. Nucleic Acids Res. 40: 170-180.
4. Freije, A., et al. 2012. Cyclin E drives human keratinocyte growth into differentiation. Oncogene 31: 5180-5192.
5. Oduro, J.D., et al. 2012. Inhibition of human cytomegalovirus immediate-early gene expression by cyclin A2-dependent kinase activity. J. Virol. 86: 9369-9383.
6. Pérez-Castro, A.J. and Freire, R. 2012. Rad9B responds to nucleolar stress through ATR and JNK signalling, and delays the G_1-S transition. J. Cell Sci. 125: 1152-1164.
7. Magnussen, G., et al. 2012. High expression of Wee1 is associated with poor disease-free survival in malignant melanoma: potential for targeted therapy. PLoS ONE 7: e38254.
8. Andrysík, Z., et al. 2013. Aryl hydrocarbon receptor-mediated disruption of contact inhibition is associated with connexin43 downregulation and inhibition of gap junctional intercellular communication. Arch. Toxicol. 87: 491-503.
9. Magnussen, G., et al. 2013. High expression of wee1 is associated with malignancy in vulvar squamous cell carcinoma patients. BMC Cancer 13: 288.
10. Reiner, T., et al. 2013. Betulinic acid selectively increases protein degradation and enhances prostate cancer-specific apoptosis: possible role for inhibition of deubiquitinase activity. PLoS ONE 8: e56234.