

## cyclin A (B-8): sc-271682



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.

## SOURCE

cyclin A (B-8) is a mouse monoclonal antibody raised against amino acids 1-432 representing full length cyclin A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-271682 X, 200 µg/0.1 ml.

cyclin A (B-8) is available conjugated to agarose (sc-271682 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271682 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271682 PE), fluorescein (sc-271682 FITC), Alexa Fluor® 488 (sc-271682 AF488), Alexa Fluor® 546 (sc-271682 AF546), Alexa Fluor® 594 (sc-271682 AF594) or Alexa Fluor® 647 (sc-271682 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271682 AF680) or Alexa Fluor® 790 (sc-271682 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

cyclin A (B-8) is recommended for detection of cyclin A and cyclin A1 of human origin by Western Blotting (starting dilution 1:100, 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 (B-8) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of cyclin A: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or HuT 78 whole cell lysate: sc-2208.

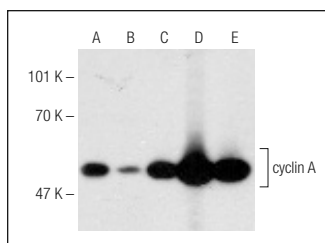
## STORAGE

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

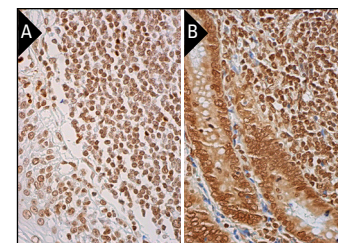
## RESEARCH USE

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

## DATA



cyclin A (B-8): sc-271682. Western blot analysis of cyclin A expression in SK-BR-3 (A), A-431 (B), HeLa (C), K-562 (D) and HuT 78 (E) whole cell lysates.



cyclin A (B-8): sc-271682. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center, cells in non-germinal center and squamous epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear and cytoplasmic staining of glandular cells and nuclear staining of lymphoid cells (B).

## SELECT PRODUCT CITATIONS

- Xu, T., et al. 2013. ECRG4 inhibits growth and invasiveness of squamous cell carcinoma of the head and neck *in vitro* and *in vivo*. *Oncol. Lett.* 5: 1921-1926.
- Croke, M., et al. 2013. Differences in 53BP1 and BRCA1 regulation between cycling and non-cycling cells. *Cell Cycle* 12: 3629-3639.
- Caffarelli, N., et al. 2013. cyclin A degradation by primate cytomegalovirus protein pUL21a counters its innate restriction of virus replication. *PLoS Pathog.* 9: e1003825.
- Di Marco, S., et al. 2017. RECQ5 helicase cooperates with MUS81 endonuclease in processing stalled replication forks at common fragile sites during mitosis. *Mol. Cell* 66: 658-671.
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- Sasaki, M., et al. 2018. The tumor suppressor MIG6 controls mitotic progression and the G<sub>2</sub>/M DNA damage checkpoint by stabilizing the WEE1 kinase. *Cell Rep.* 24: 1278-1289.
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- Bi, L., et al. 2018. The histone chaperone complex FACT promotes proliferative switch of G<sub>0</sub> cancer cells. *Int. J. Cancer.* E-published.
- Nasser, M.I., et al. 2019. Inhibitory effects of Schisandrin B on human prostate cancer cells. *Oncol. Rep.* 41: 677-685.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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