

## cyclin A (H-3): sc-271645



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 DRF1 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-3) 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>1</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-271645 X, 200 µg/0.1 ml.

cyclin A (H-3) is available conjugated to agarose (sc-271645 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271645 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271645 PE), fluorescein (sc-271645 FITC), Alexa Fluor® 488 (sc-271645 AF488), Alexa Fluor® 546 (sc-271645 AF546), Alexa Fluor® 594 (sc-271645 AF594) or Alexa Fluor® 647 (sc-271645 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271645 AF680) or Alexa Fluor® 790 (sc-271645 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

cyclin A (H-3) is recommended for detection of cyclin A and cyclin A1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

cyclin A (H-3) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of cyclin A: 54 kDa.

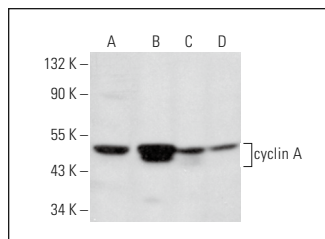
Positive Controls: K-562 whole cell lysate: sc-2203, A-431 whole cell lysate: sc-2201 or HuT 78 whole cell lysate: sc-2208.

**STORAGE**

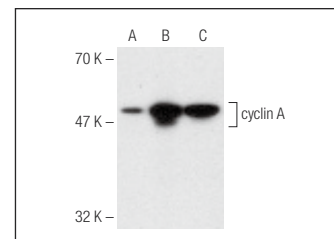
Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RESEARCH USE**

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

**DATA**

cyclin A (H-3): sc-271645. Western blot analysis of cyclin A expression in A-431 (A), K-562 (B), SK-BR-3 (C) and MCF7 (D) whole cell lysates.



cyclin A (H-3): sc-271645. Western blot analysis of cyclin A expression in HeLa (A), K-562 (B) and HuT 78 (C) whole cell lysates.

**SELECT PRODUCT CITATIONS**

1. Su, Y., et al. 2010. Human RecQL4 helicase plays critical roles in prostate carcinogenesis. *Cancer Res.* 70: 9207-9217.
2. Guo, C.P., et al. 2011. Potent anti-tumor effect generated by a novel human papillomavirus (HPV) antagonist peptide reactivating the pRb/E2F pathway. *PLoS ONE* 6: e17734.
3. Chen, M., et al. 2012. The anaphase-promoting complex or cyclosome supports cell survival in response to endoplasmic reticulum stress. *PLoS ONE* 7: e35520.
4. Graf, L., et al. 2013. The cyclin-dependent kinase ortholog pUL97 of human cytomegalovirus interacts with cyclins. *Viruses* 5: 3213-3230.
5. Machado-Neto, J.A., et al. 2014. ANKHD1, a novel component of the Hippo signaling pathway, promotes YAP1 activation and cell cycle progression in prostate cancer cells. *Exp. Cell Res.* 324: 137-145.
6. Feng, L., et al. 2015. Cell cycle-dependent inhibition of 53BP1 signaling by BRCA1. *Cell Discov.* 1: 15019.
7. Hrgovic, I., et al. 2016. The histone deacetylase inhibitor trichostatin A decreases lymphangiogenesis by inducing apoptosis and cell cycle arrest via p21-dependent pathways. *BMC cancer* 16: 763.
8. Stojiljkovic, M.R., et al. 2019. Phenotypic and functional differences between senescent and aged murine microglia. *Neurobiol. Aging* 74: 56-69.
9. Carrieri, F.A., et al. 2019. CDK1 and CDK2 regulate NICD1 turnover and the periodicity of the segmentation clock. *EMBO Rep.* 20: e46436.
10. Singh, V., et al. 2020. The TLK1/Nek1 axis contributes to mitochondrial integrity and apoptosis prevention via phosphorylation of VDAC1. *Cell Cycle* 19: 363-375.

**PROTOCOLS**

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

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