SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin A (E67.1): sc-53230

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.

REFERENCES

1. Draetta, G., et al. 1989. Cdc2 protein kinase is complexed with both cyclin A and B: evidence for proteolytic inactivation of MPF. Cell 56: 829-838.
2. Giordano, A., et al. 1989. A 60 kd Cdc2-associated polypeptide complexes with the E1A proteins in adenovirus-infected cells. Cell 58: 981-990.

CHROMOSOMAL LOCATION

Genetic locus: CCNA2 (human) mapping to 4q27; Ccna2 (mouse) mapping to 3 B.

SOURCE

cyclin A (E67.1) is a mouse monoclonal antibody raised against cyclin A of bovine origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cyclin A (E67.1) is recommended for detection of cyclin A of mouse, rat, human and bovine 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for cyclin A siRNA (h): sc-29282, cyclin A siRNA (m): sc-29283, cyclin A shRNA Plasmid (h): sc-29282-SH, cyclin A shRNA Plasmid (m): sc-29283-SH, cyclin A shRNA (h) Lentiviral Particles: sc-29282-V and cyclin A shRNA (m) Lentiviral Particles: sc-29283-V.

Molecular Weight of cyclin A: 54 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, F9 cell lysate: sc-2245 or HuT 78 whole cell lysate: sc-2208.

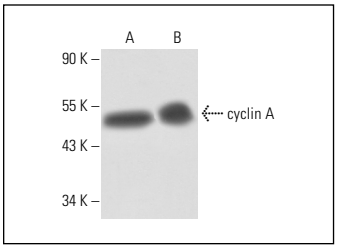
STORAGE

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

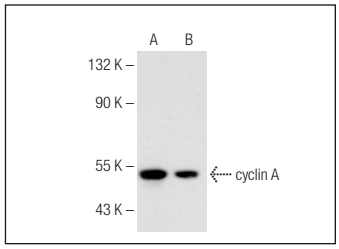
RESEARCH USE

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

DATA



cyclin A (E67.1): sc-53230. Western blot analysis of cyclin A expression in F9 whole cell lysate under reducing (**A**) and non-reducing (**B**) conditions.



cyclin A (E67.1): sc-53230. Western blot analysis of cyclin A expression in K-562 (**A**) and HuT 78 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Di Bartolo, D.L., et al. 2008. KSHV LANA inhibits TGF-β signaling through epigenetic silencing of the TGF-β type II receptor. Blood 111: 4731-4740.
2. Hastings, R.H., et al. 2009. Cell cycle actions of parathyroid hormone-related protein in non-small cell lung carcinoma. Am. J. Physiol. Lung Cell. Mol. Physiol. 297: L578-L585.
3. Macurek, L., et al. 2013. Downregulation of Wip1 phosphatase modulates the cellular threshold of DNA damage signaling in mitosis. Cell Cycle 12: 251-262.
4. Wei, W., et al. 2014. Novel celastrol derivatives inhibit the growth of hepatocellular carcinoma patient-derived xenografts. Oncotarget 5: 5819-5831.
5. Whalley, H.J., et al. 2015. Cdk1 phosphorylates the Rac activator Tiam1 to activate centrosomal Pak and promote mitotic spindle formation. Nat. Commun. 6: 7437.
6. Duquesnes, N., et al. 2016. p57 Kip2 knock-in mouse reveals CDK-independent contribution in the development of Beckwith-Wiedemann syndrome. J. Pathol. 239: 250-261.
7. Roilo, M., et al. 2018. Cold-inducible RNA-binding protein (CIRP) induces translation of the cell-cycle inhibitor p27 Kip1. Nucleic Acids Res. 46: 3198-3210.
8. Gough, R.E., et al. 2021. Talin mechanosensitivity is modulated by a direct interaction with cyclin-dependent kinase-1. J. Biol. Chem. 297: 100837.
9. Lohmüller, M., et al. 2022. The SKP2-p27 axis defines susceptibility to cell death upon CHK1 inhibition. Mol. Oncol. 16: 2771-2787.

CONJUGATES

See **cyclin A (B-8): sc-271682** for cyclin A antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.