

# cyclin A1 (XLA1-1): sc-53233

## 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., Luca, F., Westendorf, J., Brizuela, L., Ruderman, J. and Beach, D. 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., Whyte, P., Harlow, E., Franza, B.R., Jr., Beach, D. and Draetta, G. 1989. A 60 kDa Cdc2-associated polypeptide complexes with the E1A proteins in adenovirus-infected cells. *Cell* 58: 981-990.
3. Gautier, J., Minshull, J., Lohka, M., Glotzer, M., Hunt, T. and Maller, J.L. 1990. Cyclin is a component of maturation-promoting factor from *Xenopus*. *Cell* 60: 487-494.
4. Wang, J., Chenivesse, X., Henglein, B. and Br  chot, C. 1990. Hepatitis B virus integration in a cyclin A gene in a hepatocellular carcinoma. *Nature* 343: 555-557.
5. Pines, J. and Hunter, T. 1990. Human cyclin A is adenovirus E1A-associated protein p60 and behaves differently from cyclin B. *Nature* 346: 760-763.
6. Bandara, L.R., Adamczewski, J.P., Hunt, T. and La Thangue, N.B. 1991. Cyclin A and the retinoblastoma gene product complex with a common transcription factor. *Nature* 352: 249-251.
7. Williams, R.T., Carbonaro-Hall, D.A. and Hall, F.L. 1992. Co-purification of p34Cdc2/p58 cyclin A proline-directed protein kinase and the retinoblastoma tumor susceptibility gene product: interaction of an oncogenic serine/threonine protein kinase with a tumor-suppressor protein. *Oncogene* 7: 423-432.
8. Lees, E., Faha, B., Dulic, V., Reed, S.I. and Harlow, E. 1992. Cyclin E/Cdk2 and cyclin A/Cdk2 kinases associate with p107 and E2F in a temporally distinct manner. *Genes Dev.* 6: 1874-1885.
9. Yang, R., Morosetti, R. and Koeffler, H.P. 1997. Characterization of a second human cyclin A that is highly expressed in testis and in several leukemic cell lines. *Cancer Res.* 57: 913-930.

## SOURCE

cyclin A1 (XLA1-1) is a mouse monoclonal antibody raised against cyclin A of *Xenopus* origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

cyclin A1 (XLA1-1) is recommended for detection of cyclin A1 of *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of cyclin A1: 65 kDa.

## SELECT PRODUCT CITATIONS

1. Zhao, Z., Jia, Q., Wu, M.S., Xie, X., Wang, Y., Song, G., Zou, C.Y., Tang, Q., Lu, J., Huang, G., Wang, J., Lin, D.C., Koeffler, H.P., Yin, J.Q. and Shen, J. 2018. Degalactotigonin, a natural compound from *Solanum nigrum L.*, inhibits growth and metastasis of osteosarcoma through GSK3β inactivation-mediated repression of the Hedgehog/Gli1 pathway. *Clin. Cancer Res.* 24: 130-144.
2. Jagadish, N., Devi, S., Gupta, N., Suri, V. and Suri, A. 2020. Knockdown of A-kinase anchor protein 4 inhibits proliferation of triple-negative breast cancer cells *in vitro* and *in vivo*. *Tumour Biol.* 42: 1010428320914477.

## STORAGE

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

## PROTOCOLS

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