

cyclin A (1-432): sc-4072 WB

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 M phase 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 Cdc2p34.

REFERENCES

1. Draetta, G., Lucas, 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. *Cell* 60: 487-494.
4. 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.
5. Wang, J., Chenivesse, X., Henglein, B., and Berchot, C. 1990. Hepatitis B virus integration in a cyclin A gene in a hepato-cellular carcinoma. *Nature* 343: 555-557.
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., 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, 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 A (1-432) is expressed in *E. coli* as an 80 kDa tagged fusion protein corresponding to amino acids 1-432 representing full length cyclin A (also designated cyclin A2) protein of human origin.

PRODUCT

cyclin A (1-432) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

cyclin A (1-432) is suitable as a Western blotting control for sc-239, sc-596 and sc-751.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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