

cyclin A (25): sc-136253

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.
3. Gautier, J., et al. 1990. Cyclin is a component of maturation-promoting factor from *Xenopus*. *Cell* 60: 487-494.
4. Wang, J., et al. 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., et al. 1991. cyclin A and the retinoblastoma gene product complex with a common transcription factor. *Nature* 352: 249-251.
7. Williams, R.T., et al. 1992. Co-purification of p34 Cdc2/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., et al. 1992. Cyclin E/Cdk2 and cyclin A/Cdk2 kinases associate with p107 and E2F in a temporally distinct manner. *Genes Dev.* 6: 1874-1885.

CHROMOSOMAL LOCATION

Genetic locus: CCNA2 (human) mapping to 4q27.

SOURCE

cyclin A (25) is a mouse monoclonal antibody raised against amino acids 26-144 of cyclin A of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

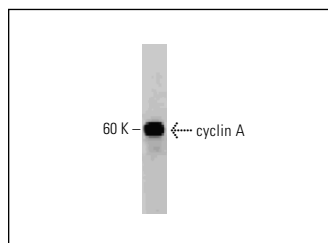
cyclin A (25) is recommended for detection of cyclin A of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of cyclin A: 54 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, MCF7 whole cell lysate: sc-2206 or A-431 whole cell lysate: sc-2201.

DATA



cyclin A (25): sc-136253. Western blot analysis of cyclin A expression in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhu, D., et al. 2018. MicroRNA-1180 is associated with growth and apoptosis in prostate cancer via TNF receptor associated factor 1 expression regulation and nuclear factor-κB signaling pathway activation. *Oncol. Lett.* 15: 4775-4780.
2. Zhou, M., et al. 2019. SND1 promotes the proliferation of osteosarcoma cells by upregulating COX-2/PGE2 expression via activation of NFκB. *Oncol. Rep.* 41: 579-589.
3. Xu, L., et al. 2020. Polyamine synthesis enzyme AMD1 is closely associated with tumorigenesis and prognosis of human gastric cancers. *Carcinogenesis* 41: 214-222.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



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.