

cyclin A (E23.1): sc-53228



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.

CHROMOSOMAL LOCATION

Genetic locus: CCNA2 (human) mapping to 4q27; Ccn2 (mouse) mapping to 3 B.

SOURCE

cyclin A (E23.1) 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 (E23.1) 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)] 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 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.

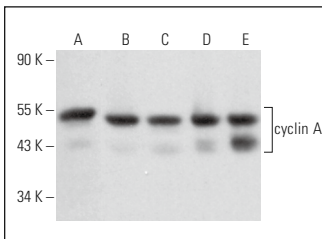
Positive Controls: K-562 whole cell lysate: sc-2203, F9 cell lysate: sc-2245 or HuT 78 whole cell lysate: sc-2208.

RECOMMENDED SUPPORT REAGENTS

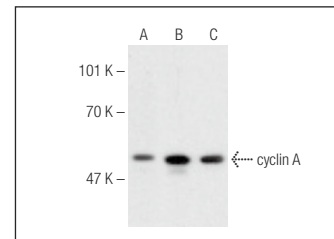
To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

STORAGE

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

DATA

cyclin A (E23.1): sc-53228. Western blot analysis of cyclin A expression in K-562 (A), F9 (B), NIH/3T3 (C) and PC-12 (D) whole cell lysates and rat testis tissue extract (E).



cyclin A (E23.1): sc-53228. Western blot analysis of cyclin A expression in HeLa (A), K-562 (B) and HuT 78 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Capodici, C., et al. 1998. Integrin-dependent homotypic adhesion of neutrophils. Arachidonic acid activates Raf-1/Mek/Erk via a 5-lipoxygenase-dependent pathway. *J. Clin. Invest.* 102: 165-175.
2. Kollár, P., et al. 2011. Geranylated flavanone tomentodiplacone B inhibits proliferation of human monocytic leukaemia (THP-1) cells. *Br. J. Pharmacol.* 162: 1534-1541.
3. Kollar, P., et al. 2013. Prenylated flavonoids from *Morus alba L.* cause inhibition of G₁/S transition in THP-1 human leukemia cells and prevent the lipopolysaccharide-induced inflammatory response. *Evid. Based Complement. Alternat. Med.* 2013: 350519.
4. Trcka, F., et al. 2013. Nuclear factor of activated T-cells 1 increases sensitivity of v-Myb transformed monoblasts to all-*trans* retinoic acid. *Cell. Signal.* 25: 1546-1555.
5. Cao, L., et al. 2016. A hybrid chalcone combining the trimethoxyphenyl and isatinyl groups targets multiple oncogenic proteins and pathways in hepatocellular carcinoma cells. *PLoS ONE* 11: e0161025.
6. Zhang, C., et al. 2019. Down-regulation of CCNE1 expression suppresses cell proliferation and sensitizes gastric carcinoma cells to cisplatin. *Biosci. Rep.* 39: BSR20190381.
7. Yeow, Z.Y., et al. 2020. Targeting TRIM37-driven centrosome dysfunction in 17q23-amplified breast cancer. *Nature* 585: 447-452.

RESEARCH USE

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



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.