

## cyclin E (B-7): sc-48420



The Power to Question

## BACKGROUND

Cyclins were first identified in invertebrates as proteins that oscillate dramatically through the cell cycle. These proteins have been well conserved through evolution and play a critical role in regulation of cell division. cyclin E, along with the three cyclin D proteins and cyclin C, has been shown to represent a putative G<sub>1</sub> cyclin on the basis of its cyclic pattern of mRNA expression, with maximal levels being detected near the G<sub>1</sub>/S boundary. cyclin E has been found to be associated with the transcription factor E2F in a temporally regulated manner. The cyclin E/E2F complex is detected primarily during the G<sub>1</sub> phase of the cell cycle and decreases as cells enter S phase. E2F is known to be a critical transcription factor for expression of several S phase specific proteins.

## REFERENCES

1. Evans, T., et al. 1983. Cyclin: a protein specified by maternal mRNA in sea urchin eggs that is destroyed at each cleavage division. *Cell* 33: 389-396.
2. Swenson, K.I., et al. 1986. The clam embryo protein cyclin A induces entry into M phase and the resumption of meiosis in *Xenopus* oocytes. *Cell* 47: 861-870.

## CHROMOSOMAL LOCATION

Genetic locus: CCNE1 (human) mapping to 19q12.

## SOURCE

cyclin E (B-7) is a mouse monoclonal antibody raised against amino acids 1-145 of cyclin E of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

cyclin E (B-7) is recommended for detection of cyclin E 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)], 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 E siRNA (h): sc-29288, cyclin E shRNA Plasmid (h): sc-29288-SH and cyclin E shRNA (h) Lentiviral Particles: sc-29288-V.

Molecular Weight of cyclin E: 53 kDa.

Positive Controls: A-673 cell lysate: sc-2414, Jurkat nuclear extract: sc-2132 or U-698-M whole cell lysate: sc-364799.

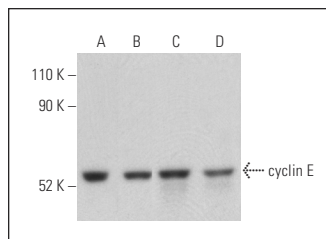
## STORAGE

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

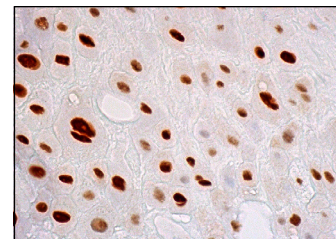
## RESEARCH USE

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

## DATA



cyclin E (B-7): sc-48420. Western blot analysis of cyclin E expression in Jurkat nuclear extract (A) and A-673 (B), U-698-M (C) and SK-BR-3 (D) whole cell lysates. Detection reagent used: m-IgG<sub>2a</sub> BP-HRP: sc-542731.



cyclin E (B-7): sc-48420. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear staining of decidual cells.

## SELECT PRODUCT CITATIONS

1. Weinstein, J. 1997. Cell cycle-regulated expression, phosphorylation, and degradation of p55Cdc. A mammalian homolog of Cdc20/Fizzy/slp1. *J. Biol. Chem.* 272: 28501-28511.
2. Patil, M., et al. 2013. Nek1 interacts with Ku80 to assist chromatin loading of replication factors and S-phase progression. *Cell Cycle* 12: 2608-2616.
3. Ciucci, A., et al. 2014. Gender effect in experimental models of human medulloblastoma: does the estrogen receptor  $\beta$  signaling play a role? *PLoS ONE* 9: e101623.
4. Yu, L., et al. 2015. Ligustrazine attenuates the platelet-derived growth factor-BB-induced proliferation and migration of vascular smooth muscle cells by interrupting extracellular signal-regulated kinase and P38 mitogen-activated protein kinase pathways. *Mol. Med. Rep.* 12: 705-711.
5. Jablonska, B., et al. 2016. SIRT1 regulates glial progenitor proliferation and regeneration in white matter after neonatal brain injury. *Nat. Commun.* 7: 13866.
6. Nasser, M.I., et al. 2019. Inhibitory effects of Schisandrin B on human prostate cancer cells. *Oncol. Rep.* 41: 677-685.
7. Ribeiro, A.R.G., et al. 2021. Retrospective analysis of the role of cyclin E1 overexpression as a predictive marker for the efficacy of bevacizumab in platinum-sensitive recurrent ovarian cancer. *Ecancermedicalscience* 15: 1262.
8. Yun, H.S., et al. 2022. A novel function of HRP-3 in regulating cell cycle progression via the HDAC-E2F1-cyclin E pathway in lung cancer. *Cancer Sci.* 113: 145-155.



See **cyclin E (E-4): sc-377100** for cyclin E antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.