

## cyclin E (13A3): sc-56310



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 (13A3) is a mouse monoclonal antibody raised against full length cyclin E of human origin.

## PRODUCT

Each vial contains 250 µl culture supernatant containing IgG<sub>2a</sub> with < 0.1% sodium azide.

## APPLICATIONS

cyclin E (13A3) is recommended for detection of cyclin E of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:500) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:3000).

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: K-562 nuclear extract: sc-2130, MOLT-4 nuclear extract: sc-2151 or cyclin E (h2): 293T Lysate: sc-170464.

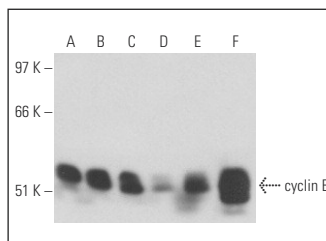
## RESEARCH USE

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

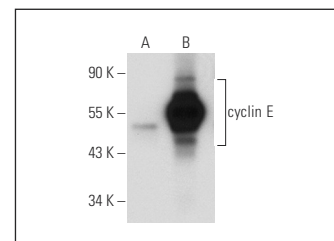
## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## DATA



cyclin E (13A3): sc-56310. Western blot analysis of cyclin E expression in MOLT-4 (A), K-562 (B), HeLa (C) and IMR-32 (D) nuclear extracts and MEG-01 (E) and JEG-3 (F) whole cell lysates.



cyclin E (13A3): sc-56310. Western blot analysis of cyclin E expression in non-transfected (A) and human cyclin E transfected: sc-170464 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Wang, J., et al. 2008. c-Myc is required for maintenance of glioma cancer stem cells. *PLoS ONE* 3: e3769.
2. Striedinger, K., et al. 2008. The neurofibromatosis 2 tumor suppressor gene product, merlin, regulates human meningioma cell growth by signaling through YAP. *Neoplasia* 10: 1204-1212.
3. Wu, W., et al. 2009. Antibody array analysis with label-based detection and resolution of protein size. *Mol. Cell. Proteomics* 8: 245-257.
4. Fan, R., et al. 2010. Adenoviral-mediated RNA interference targeting URG11 inhibits growth of human hepatocellular carcinoma. *Int. J. Cancer* 128: 2980-2993.
5. Tan, M.K., et al. 2011. SCFFBX022 regulates histone H3 Lysine 9 and 36 methylation levels by targeting histone demethylase KDM4A for ubiquitin-mediated proteasomal degradation. *Mol. Cell. Biol.* 31: 3687-3699.
6. Mao, L., et al. 2012. Cyclin E1 is a common target of BMI1 and MYCN and a prognostic marker for neuroblastoma progression. *Oncogene* 31: 3785-3795.
7. Tong, J., et al. 2014. TG-β1 stimulates human Tenon's capsule fibroblast proliferation by miR-200b and its targeting of p27<sup>kip1</sup> and RND3. *Invest. Ophthalmol. Vis. Sci.* 55: 2747-56.
8. Lee, J.C., et al. 2015. Upregulation of B-cell translocation gene 2 by epigallocatechin-3-gallate via p38 and ERK signaling blocks cell proliferation in human oral squamous cell carcinoma cells. *Cancer Lett.* 360: 310-318.

## CONJUGATES

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