SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin E (B-7): sc-48420

SANTA CRUZ BIOTECHNOLOGY

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_1 cyclin on the basis of its cyclic pattern of mRNA expression, with maximal levels being detected near the G_1/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_1 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.

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_{2a} 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.

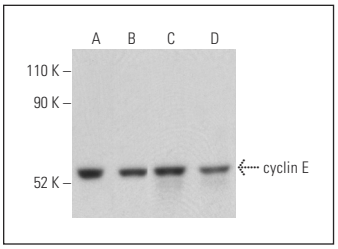
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

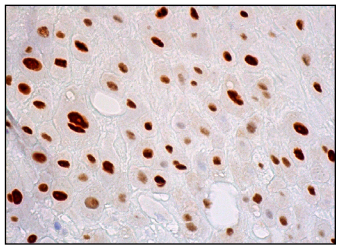
STORAGE

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

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_{2a} 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 β 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. Wang, T., et al. 2018. The mitotic and metabolic effects of phosphatidic acid in the primary muscle cells of turbot *(Scophthalmus maximus)*. Front. Endocrinol. 9: 221.
7. Nasser, M.I., et al. 2019. Inhibitory effects of Schisandrin B on human prostate cancer cells. Oncol. Rep. 41: 677-685.

RESEARCH USE

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

CONJUGATES

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.