SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin E (H-145): sc-20684

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.

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.
3. Murray, A.W., et al. 1989. The role of cyclin synthesis and degradation in the control of maturation promoting factor activity. Nature 339: 280-286.
4. Soloman, M.J., et al. 1990. Cyclin activation of p34cdc2. Cell 63: 1013-1024.

CHROMOSOMAL LOCATION

Genetic locus: CCNE1 (human) mapping to 19q12; Ccne1 (mouse) mapping to 7 B2.

SOURCE

cyclin E (H-145) is a rabbit polyclonal antibody raised against amino acids 1-145 mapping at the N-terminus of cyclin E of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cyclin E (H-145) is recommended for detection of cyclin E of human and, to a lesser extent, mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cyclin E siRNA (h): sc-29288, cyclin E siRNA (m): sc-29289, cyclin E shRNA Plasmid (h): sc-29288-SH, cyclin E shRNA Plasmid (m): sc-29289-SH, cyclin E shRNA (h) Lentiviral Particles: sc-29288-V and cyclin E shRNA (m) Lentiviral Particles: sc-29289-V.

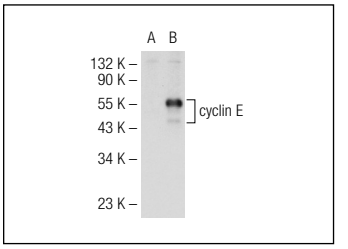
Molecular Weight of cyclin E: 53 kDa.

Positive Controls: cyclin E (h): 293T Lysate: sc-170464, K-562 whole cell lysate: sc-2203 or JEG-3 whole cell lysate.

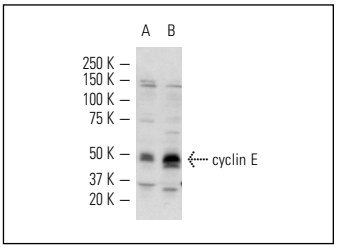
STORAGE

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

DATA



cyclin E (H-145): sc-20684. Western blot analysis of cyclin E expression in non-transfected: sc-117752 (**A**) and human cyclin E transfected: sc-170464 (**B**) 293T whole cell lysates.



cyclin E (H-145): sc-20684. Western blot analysis of cyclin E expression in K-562 (**A**) and JEG-3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yoshihara, T., et al. 2007. Cyclin D1 down-regulation is essential for DBC2's tumor suppressor function. Biochem. Biophys. Res. Commun. 358: 1076-1079.
2. Schmetsdorf, S., et al. 2007. Constitutive expression of functionally active cyclin-dependent kinases and their binding partners suggests noncanonical functions of cell cycle regulators in differentiated neurons. Cereb. Cortex 17: 1821-1829.
3. Chen, X., et al. 2007. Hedgehog signal pathway is activated in ovarian carcinomas, correlating with cell proliferation: it's inhibition leads to growth suppression and apoptosis. Cancer Sci. 98: 68-76.
4. Feng, Y.Z., et al. 2007. Overexpression of hedgehog signaling molecules and its involvement in the proliferation of endometrial carcinoma cells. Clin. Cancer Res. 13: 1389-1398.
5. Milne, A.N.A., et al. 2008. Cyclin E low molecular weight isoforms occur commonly in early-onset gastric cancer and independently predict survival. J. Clin. Pathol. 61: 311-316.
6. Guller, M., et al. 2008. c-Fos overexpression increases the proliferation of human hepatocytes by stabilizing nuclear cyclin D1. World J. Gastroenterol. 14: 6339-6346.
7. Oka, T., et al. 2008. Mst2 and Lats kinases regulate apoptotic function of Yes kinase-associated protein (YAP). J. Biol. Chem. 283: 27534-27546.
8. Wang, H., et al. 2011. MicroRNA-342 inhibits colorectal cancer cell proliferation and invasion by directly targeting DNA methyltransferase 1. Carcinogenesis 32: 1033-1042.

RESEARCH USE

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