SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin E (E-4): sc-377100

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; Ccne1 (mouse) mapping to 7 B2.

SOURCE

cyclin E (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 367-396 at the C-terminus of cyclin E of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cyclin E (E-4) is available conjugated to agarose (sc-377100 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377100 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377100 PE), fluorescein (sc-377100 FITC), Alexa Fluor® 488 (sc-377100 AF488), Alexa Fluor® 546 (sc-377100 AF546), Alexa Fluor® 594 (sc-377100 AF594) or Alexa Fluor® 647 (sc-377100 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377100 AF680) or Alexa Fluor® 790 (sc-377100 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377100 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

cyclin E (E-4) is recommended for detection of cyclin E1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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.

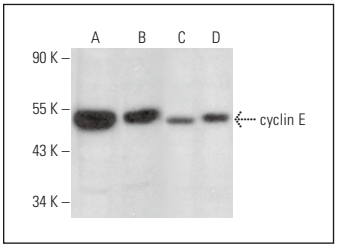
Molecular Weight of cyclin E: 53 kDa.

Positive Controls: JAR cell lysate: sc-2276, MEG-01 cell lysate: sc-2283 or IMR-32 nuclear extract: sc-2148.

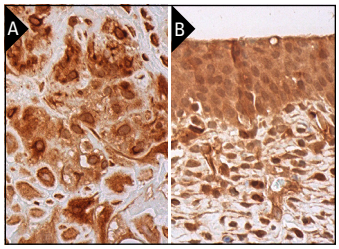
STORAGE

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

DATA



cyclin E (E-4): sc-377100. Western blot analysis of cyclin E expression in JAR (**A**) and MEG-01 (**B**) whole cell lysates and MOLT-4 (**C**) and IMR-32 (**D**) nuclear extracts.



cyclin E (E-4): sc-377100. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear and cytoplasmic staining of decidual cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear and cytoplasmic staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Li, F.Q., et al. 2007. Cell cycle arrest and apoptosis induced by the coronavirus infectious bronchitis virus in the absence of p53. Virology 365: 435-445.
2. Tichy, E.D., et al. 2012. The abundance of Rad51 protein in mouse embryonic stem cells is regulated at multiple levels. Stem Cell Res. 9: 124-134.
3. Lee, J.H., et al. 2014. Ghrelin augments murine T-cell proliferation by activation of the phosphatidylinositol-3-kinase, extracellular signal-regulated kinase and protein kinase C signaling pathways. FEBS Lett. 588: 4708-4719.
4. Han, Y.S., et al. 2015. Fucoidan inhibits the migration and proliferation of HT-29 human colon cancer cells via the phosphoinositide-3 kinase/Akt/mechanistic target of rapamycin pathways. Mol. Med. Rep. 12: 3446-3452.
5. Barbutti, I., et al. 2016. CATS (FAM64A) abnormal expression reduces clonogenicity of hematopoietic cells. Oncotarget 7: 68385-68396.
6. Ishida, S., et al. 2017. Novel mechanism of aberrant ZIP4 expression with zinc supplementation in oral tumorigenesis. Biochem. Biophys. Res. Commun. 483: 339-345.
7. Xiong, X., et al. 2018. FBP1 promotes ovarian cancer development through the acceleration of cell cycle transition and metastasis. Oncol. Lett. 16: 1682-1688.
8. Liu, N., et al. 2019. CADM2 inhibits human glioma proliferation, migration and invasion. Oncol. Rep. 41: 2273-2280.
9. Li, G., et al. 2020. lncRNA SOX2-OT regulates laryngeal cancer cell proliferation, migration and invasion and induces apoptosis by suppressing miR-654. Exp. Ther. Med. 19: 3316-3324.

RESEARCH USE

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