SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin E (HE111): sc-248

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 (HE111) is a mouse monoclonal antibody raised against recombinant cyclin E of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-248 X, 200 µg/0.1 ml.

cyclin E (HE111) is available conjugated to agarose (sc-248 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-248 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-248 PE), fluorescein (sc-248 FITC), Alexa Fluor® 488 (sc-248 AF488), Alexa Fluor® 546 (sc-248 AF546), Alexa Fluor® 594 (sc-248 AF594) or Alexa Fluor® 647 (sc-248 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-248 AF680) or Alexa Fluor® 790 (sc-248 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, cyclin E (HE111) is available conjugated to TRITC (sc-248 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

cyclin E (HE111) is recommended for detection of cyclin E of mouse, rat and 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 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.

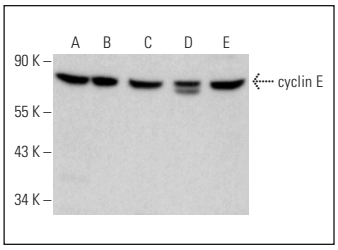
cyclin E (HE111) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of cyclin E: 53 kDa.

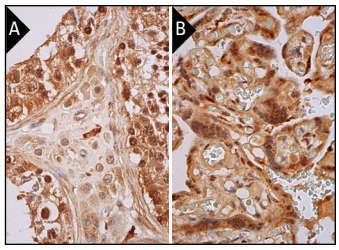
STORAGE

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

DATA



cyclin E (HE111): sc-248. Western blot analysis of cyclin E expression in JAR (**A**), KNRK (**B**), MEG-01 (**C**), 3T3-L1 (**D**) and Jurkat (**E**) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



cyclin E (HE111): sc-248. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear and cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Ruesch, M.N. and Laimins, L.A. 1997. Initiation of DNA synthesis by human papillomavirus E7 oncoproteins is resistant to p21-mediated inhibition of cyclin E-cdk2 activity. J. Virol. 71: 5570-5578.
2. Jones, D.L., et al. 1997. The human papillomavirus E7 oncoprotein can uncouple cellular differentiation and proliferation in human keratinocytes by abrogating $p21^{Cip1}$-mediated inhibition of cdk2. Genes Dev. 11: 2101-2111.
3. Kurimchak, A., et al. 2013. Activation of p107 by fibroblast growth factor, which is essential for chondrocyte cell cycle exit, is mediated by the protein phosphatase 2A/B55α holoenzyme. Mol. Cell. Biol. 33: 3330-3342.
4. He, G., et al. 2013. Recruitment of trimeric proliferating cell nuclear antigen by G_1-phase cyclin-dependent kinases following DNA damage with platinum-based antitumour agents. Br. J. Cancer 109: 2378-2388.
5. Cheng, P.H., et al. 2013. Molecular basis for viral selective replication in cancer cells: activation of CDK2 by adenovirus-induced cyclin E. PLoS ONE 8: e57340.
6. Zhou, W., et al. 2014. ERα, SKP2 and E2F-1 form a feed forward loop driving late ERα targets and G_1 cell cycle progression. Oncogene 33: 2341-2353.
7. Choudhary, G.S., et al. 2015. Cyclin E/Cdk2-dependent phosphorylation of Mcl-1 determines its stability and cellular sensitivity to BH3 mimetics. Oncotarget 6: 16912-16925.

RESEARCH USE

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