

## cyclin E (HE111): sc-248



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.

## 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<sub>1</sub> 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.

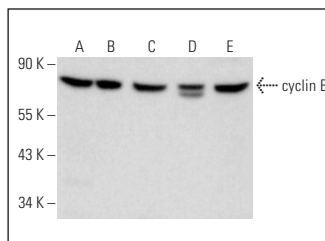
cyclin E (HE111) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of cyclin E: 53 kDa.

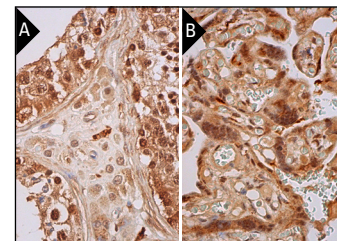
## STORAGE

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-IgG<sub>1</sub> 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

- 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.
- Wu, W., et al. 2009. Antibody array analysis with label-based detection and resolution of protein size. *Mol. Cell. Proteomics* 8: 245-257.
- Li, C., et al. 2010. A bifunctional regulatory element in human somatic Wee 1 mediates cyclin A/Cdk2 binding and Crm1-dependent nuclear export. *Mol. Cell. Biol.* 30: 116-130.
- Sengupta, T., et al. 2011. Hypoxia-inducible factor 1 is activated by dysregulated cyclin E during mammary epithelial morphogenesis. *Mol. Cell. Biol.* 31: 3885-3895.
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- Zhou, W., et al. 2014. ER $\alpha$ , SKP2 and E2F-1 form a feed forward loop driving late ER $\alpha$  targets and G<sub>1</sub> cell cycle progression. *Oncogene* 33: 2341-2353.
- 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.

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