

cyclin E (HE12): sc-247

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 G₁ cyclin on the basis of its cyclic pattern of mRNA expression, with maximal levels being detected near the G₁/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 G₁ 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 (HE12) is a mouse monoclonal antibody raised against recombinant cyclin E of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cyclin E (HE12) is available conjugated to either fluorescein (sc-247 FITC), Alexa Fluor[®] 488 (sc-247 AF488), Alexa Fluor[®] 546 (sc-247 AF546) or Alexa Fluor[®] 594 (sc-247 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-247 AF680) or Alexa Fluor[®] 790 (sc-247 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, cyclin E (HE12) is available conjugated to TRITC (sc-247 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

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APPLICATIONS

cyclin E (HE12) is recommended for detection of cyclin E (doublet at 50 kDa and single band at 42 kDa) 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); Highly expressed in testis and placenta. Low levels in bronchial epithelial cells.

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.

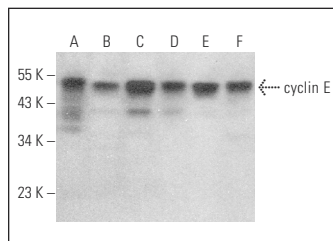
Molecular Weight of cyclin E: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MEG-01 cell lysate: sc-2283 or JAR cell lysate: sc-2276.

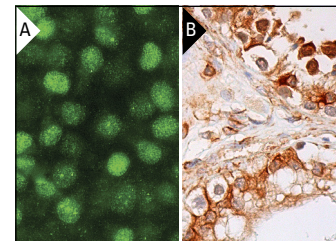
STORAGE

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

DATA



cyclin E (HE12): sc-247. Western blot analysis of cyclin E expression in HeLa (A), MEG-01 (B), JAR (C), MOLT-4 (D), IMR-32 (E) and MCF7 (F) whole cell lysates.



cyclin E (HE12): sc-247. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (B).

SELECT PRODUCT CITATIONS

- Zalcman, G., et al. 1995. Regulation of Ras-related RhoB protein expression during the cell cycle. *Oncogene* 10: 1935-1945.
- Smith, E., et al. 1995. Expression of cell cycle regulatory factors in differentiating osteoblasts: postproliferative up-regulation of cyclins B and E. *Cancer Res.* 55: 5019-5024.
- Guo, X.W., et al. 1995. Chromosome condensation induced by fostriecin does not require p34cdc2 kinase activity and histone H1 hyperphosphorylation, but is associated with enhanced histone H2A and H3 phosphorylation. *EMBO J.* 14: 976-985.
- Zhang, M.Y., et al. 2019. Effects of Beclin 1 overexpression on aggressive phenotypes of colon cancer cells. *Oncol. Lett.* 17: 2441-2450.
- Xue, Y., et al. 2019. SMARCA4 loss is synthetic lethal with CDK4/6 inhibition in non-small cell lung cancer. *Nat. Commun.* 10: 557.
- Xue, Y., et al. 2019. CDK4/6 inhibitors target SMARCA4-determined cyclin D1 deficiency in hypercalcemic small cell carcinoma of the ovary. *Nat. Commun.* 10: 558.
- Cornell, L., et al. 2019. MicroRNA-mediated suppression of the TGF-β pathway confers transmissible and reversible CDK4/6 inhibitor resistance. *Cell Rep.* 26: 2667-2680.e7.
- Zhang, X., et al. 2019. Regulation of OLC1 protein expression by the anaphase-promoting complex. *Oncol. Lett.* 17: 2639-2646.
- Schade, A.E., et al. 2019. Cyclin D-CDK4 relieves cooperative repression of proliferation and cell cycle gene expression by DREAM and RB. *Oncogene* 38: 4962-4976.

RESEARCH USE

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