SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin E siRNA (h): sc-29288

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.

PRODUCT

cyclin E siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see cyclin E shRNA Plasmid (h): sc-29288-SH and cyclin E shRNA (h) Lentiviral Particles: sc-29288-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

cyclin E siRNA (h) is recommended for the inhibition of cyclin E expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

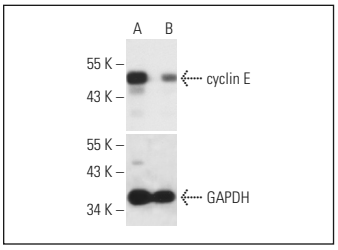
GENE EXPRESSION MONITORING

cyclin E (E-4): sc-377100 is recommended as a control antibody for monitoring of cyclin E gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor cyclin E gene expression knockdown using RT-PCR Primer: cyclin E (h)-PR: sc-29288-PR (20 µl, 541 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



cyclin E siRNA (h): sc-29288. Western blot analysis of cyclin E expression in non-transfected control (**A**) and cyclin E siRNA transfected (**B**) Jurkat cells. Blot probed with cyclin E (HE12): sc-247. GAPDH (FL-335): sc-25778 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Gong, J., et al. 2006. Activation of p300 histone acetyltransferase activity and acetylation of the androgen receptor by bombesin in prostate cancer cells. Oncogene 25: 2011-2021.
2. Kleban, J., et al. 2008. Mechanisms involved in the cell cycle and apoptosis of HT-29 cells pre-treated with MK-886 prior to photodynamic therapy with hypericin. J. Photochem. Photobiol. B 93: 108-118.
3. Nakashima, T., et al. 2010. Down-regulation of miR-424 contributes to the abnormal angiogenesis via MEK1 and cyclin E1 in senile hemangioma: its implications to therapy. PLoS ONE 5: e14334.
4. Jiang, G., et al. 2012. P120-catenin isoforms 1 and 3 regulate proliferation and cell cycle of lung cancer cells via β-catenin and Kaiso respectively. PLoS ONE 7: e30303.
5. Deng, W., et al. 2015. p21/cyclin E pathway modulates anticlastogenic function of Bmi-1 in cancer cells. Int. J. Cancer 136: 1361-1370.
6. Liang, H., et al. 2019. Inhibition of cyclin E1 overcomes temozolomide resistance in glioblastoma by Mcl-1 degradation. Mol. Carcinog. 58: 1502-1511.
7. Xu, J., et al. 2019. Inhibition of cyclin E1 sensitizes hepatocellular carcinoma cells to regorafenib by Mcl-1 suppression. Cell Commun. Signal. 17: 85.

RESEARCH USE

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