SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin E2 siRNA (m): sc-37595

BACKGROUND

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. Cyclin E2 is a cyclin E-related protein that specifically interacts with Cdk2 and Cdk3 and with p27 and p21. Cyclin E2 expression peaks at the G_1/S phase transition of the cell cycle, in parallel with cyclin E. Whereas cyclin E1 is expressed in most proliferating normal and tumor cells, cyclin E2 levels are low or undetectable in nontransformed cells, and are elevated in tumor-derived cells.

REFERENCES

1. Lew, D.J., et al. 1991. Isolation of three novel human cyclins by rescue of G_1 cyclin (Cln) function in yeast. Cell 66: 1197-1206.
2. Koff, A., et al. 1991. Human cyclin E, a new cyclin that interacts with two members of the Cdc2 gene family. Cell 66: 1217-1228.
3. Lees, E., et al. 1992. cyclin E/Cdk2 and cyclin A/Cdk2 kinases associate with p107 and E2F in a temporally distinct manner. Genes Dev. 6: 1874-1885.
4. Lauper, N., et al. 1998. Cyclin E2: a novel Cdk2 partner in the late G_1 and S phases of the mammalian cell cycle. Oncogene 17: 2637-2643.
5. Zariwala, M., et al. 1998. Cyclin E2, a novel human G_1 cyclin and activating partner of Cdk2 and Cdk3, is induced by viral oncoproteins. Oncogene 17: 2787-2798.
6. Gudas, J.M., et al. 1999. Cyclin E2, a novel G_1 cyclin that binds Cdk2 and is aberrantly expressed in human cancers. Mol. Cell. Biol. 19: 612-622.

CHROMOSOMAL LOCATION

Genetic locus: Ccne2 (mouse) mapping to 4 A1.

PRODUCT

cyclin E2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs 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 E2 shRNA Plasmid (m): sc-37595-SH and cyclin E2 shRNA (m) Lentiviral Particles: sc-37595-V as alternate gene silencing products.

For independent verification of cyclin E2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-37595A, sc-37595B and sc-37595C.

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 E2 siRNA (m) is recommended for the inhibition of cyclin E2 expression in mouse 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.

GENE EXPRESSION MONITORING

cyclin E2 (A-9): sc-28351 is recommended as a control antibody for monitoring of cyclin E2 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor cyclin E2 gene expression knockdown using RT-PCR Primer: cyclin E2 (m)-PR: sc-37595-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Perez-Neut, M., et al. 2015. Stimulation of hERG1 channel activity promotes a calcium-dependent degradation of cyclin E2, but not cyclin E1, in breast cancer cells. Oncotarget 6: 1631-1639.

RESEARCH USE

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

PROTOCOLS

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