SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin E siRNA (m): sc-29289

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.

REFERENCES

1. Evans, T., et al. 1983. cyclin: a protein specified by maternal mRNA in sea urchin eggs that is destroyed at each cleavage division. Cell 33: 389-396.
2. Swenson, K.I., et al. 1986. The clam embryo protein cyclin A induces entry into M phase and the resumption of meiosis in *Xenopus* oocytes. Cell 47: 861-870.
3. Murray, A.W., et al. 1989. The role of cyclin synthesis and degradation in the control of maturation promoting factor activity. Nature 339: 280-286.
4. Soloman, M.J., et al. 1990. Cyclin activation of $p34^{cdc2}$. Cell 63: 1013-1024.
5. 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.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: Ccne1 (mouse) mapping to 7 B2.

PRODUCT

cyclin E siRNA (m) is a pool of 4 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 E shRNA Plasmid (m): sc-29289-SH and cyclin E shRNA (m) Lentiviral Particles: sc-29289-V as alternate gene silencing products.

For independent verification of cyclin E (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-29289A, sc-29289B, sc-29289C and sc-29289D.

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 (m) is recommended for the inhibition of cyclin E 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 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).

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 E gene expression knockdown using RT-PCR Primer: cyclin E (m)-PR: sc-29289-PR (20 µl, 477 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Schmetsdorf, S., et al. 2009. A putative role for cell cycle-related proteins in microtubule-based neuroplasticity. Eur. J. Neurosci. 29: 1096-1107.
2. Xu, X., et al. 2015. Concentration-dependent diversifcation effects of free cholesterol loading on macrophage viability and polarization. Cell. Physiol. Biochem. 37: 419-431.

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.