SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin I siRNA (h): sc-35141

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cyclins are the regulatory subunits of Cdc2 p34 and related cyclin-dependent kinases (Cdks) which play critical roles in the control of cell cycle progression. The catalytic subunit for cyclin A and B is Cdc2 p34 kinase. The Cdc2-cyclin B complex controls the G_2 to M transition whereas Cdc2-cyclin A regulates S phase progression. cyclin D1 accumulates during G_1 and associates with Cdk2, Cdk4 and Cdk5. cyclin E and Cdk2 interact during the G_1 to S transition. cyclin G contains a typical N terminal cyclin box and a carboxy terminal domain sequence homologous to the tyrosine phosphorylation site of the epidermal growth factor receptor. cyclin G2 shares 53% amino acid sequence identity with cyclin G1. cyclin I shares highest sequence similarity to cyclins G and E and is most highly expressed in skeletal muscle, heart and brain.

REFERENCES

1. Pines, J., et al. 1990. Human cyclin A is adenovirus E1A-associated protein p60 and behaves differently from cyclin B. Nature 346: 760-763.
2. Fang, F., et al. 1991. Evidence that the G_1-S and G_2-M transitions are controlled by different cdc2 proteins in higher eukaryotes. Cell 66: 731-742.
3. 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.
4. Girard, F., et al. 1991. cyclin A is required for the onset of DNA replication in mammalian fibroblasts. Cell 67: 1169-1179.
5. Xiong, Y., et al. 1992.D type cyclins associate with multiple protein kinases and the DNA replication and repair factor PCNA. Cell 71: 505-514.
6. Tamura, K., et al. 1993. cyclin G: a new mammalian cyclin with homology to fission yeast Cig1. Oncogene 8: 2113-2118.
7. Nakamura, T., et al. 1995. cyclin I: a new mcyclin encoded by a gene isolated from human brain. Exp. Cell Res. 221: 534-542.
8. Horne, M.C., et al. 1996. cyclin G1 and cyclin G2 comprise a new family of cyclins with contrasting issue-specific and cell cycle-regulated expressions. J. Biol. Chem. 271: 6050-6061.

CHROMOSOMAL LOCATION

Genetic locus: CCNI (human) mapping to 4q21.1.

PRODUCT

cyclin I siRNA (h) 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 I shRNA Plasmid (h): sc-35141-SH and cyclin I shRNA (h) Lentiviral Particles: sc-35141-V as alternate gene silencing products.

For independent verification of cyclin I (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-35141A, sc-35141B and sc-35141C.

RESEARCH USE

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

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 I siRNA (h) is recommended for the inhibition of cyclin I 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor cyclin I gene expression knockdown using RT-PCR Primer: cyclin I (h)-PR: sc-35141-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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