SANTA CRUZ BIOTECHNOLOGY, INC.

cyclin C siRNA (h): sc-35132

BACKGROUND

The proliferation of eukaryotic cells is controlled at specific points in the cell cycle, particularly at the G_1 to S and the G_2 to M transitions. It is well established that the Cdc2 p34-cyclin B protein kinase plays a critical role in the G_2 to M transition while cyclin A associates with Cdk2 p33 and functions in S phase. Considerable effort directed towards the identification of G_1 cyclins has led to the isolation of cyclin D, cyclin C and cyclin E. Cyclin D corresponds to a putative human oncogene designated PRAD1 which maps at the site of the Bcl-1 rearrangement in certain lymphomas and leukemias. Cyclin C complexes with the cyclin dependent kinase Cdk8. The cyclin C/Cdk8 complex has been shown to have kinase activity toward the carboxy terminal domain of RNA polymerase II. Two complexes have been identified which contain cyclin C/Cdk8. A very large complex of over has been found to contain the large subunit of RNA polymerase II. A smaller complex has also been identified.

REFERENCES

1. Draetta, G. 1990. Cell cycle control in eukaryotes: molecular mechanisms of Cdc2 activation. Trends Biol. Sci. 15: 378-383.
2. Xiong, Y., et al. 1991. Human D-type cyclin. Cell 65: 691-699.
3. 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.
4. Won, K., et al. 1992. Growth-regulated expression of D-type cyclin genes in human diploid fibroblasts. Proc. Natl. Acad. Sci. USA 89: 9910-9914.
5. Xiong, Y., et al. 1992. Molecular cloning and chromosomal mapping of CCND genes encoding human D-type cyclins. Genomics 13: 575-584.
6. Rickert, P., et al. 1996. Cyclin C/Cdk8 is a novel CTD kinase associated with RNA polymerase II. Oncogene 12: 2631-2640.
7. Ren, S., et al. 2004. Cyclin C/cdk3 promotes Rb-dependent G_0 exit. Cell 117: 239-251.
8. Galamb, O., et al. 2007. Evaluation of malignant and benign gastric biopsy specimens by mRNA expression profile and multivariate statistical methods. Cytometry B Clin. Cytom. 72: 299-309.

CHROMOSOMAL LOCATION

Genetic locus: CCNC (human) mapping to 6q16.2.

PRODUCT

cyclin C 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 C shRNA Plasmid (h): sc-35132-SH and cyclin C shRNA (h) Lentiviral Particles: sc-35132-V as alternate gene silencing products.

For independent verification of cyclin C (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-35132A, sc-35132B and sc-35132C.

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 C siRNA (h) is recommended for the inhibition of cyclin C 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 C gene expression knockdown using RT-PCR Primer: cyclin C (h)-PR: sc-35132-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. Sobol, A., et al. 2015. Depletion of Amyloid Precursor Protein (APP) causes G_0 arrest in non-small cell lung cancer (NSCLC) cells. J. Cell. Physiol. 230: 1332-1341.

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.