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Cdc26 siRNA (m): sc-142208

BACKGROUND

Cell cycle progression is controlled at a point late in G₁ designated Start. Passage through Start requires the activity of the cyclin-dependent protein kinase Cdc28. Transition from G₁ to S phase requires the association of Cdc28 with members of the G₁ cyclin family. Exit from mitosis and initiation of the next cell cycle requires a complex of proteins designated the anaphase-promoting complex (APC). This complex consists of two proteins, Cdc16 and Cdc27 (also referred to as Snb1), which are involved in limiting DNA replication to once per cell cycle. Cdc23, another component of the APC, is required for both entering and exiting anaphase, and is important for the proper separation of sister chromatids. The APC is thought to be stabilized by Cdc26 (also known as SCD26). In addition to these APC proteins, Cdc5 is also required for completion of mitosis. In contrast, Cdc20 acts as a DNA-damage induced checkpoint, preventing mitosis when DNA damage has occurred.

REFERENCES

1. Sherlock, G., et al. 1993. Starting to cycle: G₁ controls regulating cell division in budding yeast. *J. Gen. Microbiol.* 139: 2531-2541.
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3. Heichman, K.A., et al. 1996. The yeast CDC16 and CDC27 genes restrict DNA replication to once per cell cycle. *Cell* 85: 39-48.
4. Zachariae, W., et al. 1996. Identification of subunits of the anaphase-promoting complex of *Saccharomyces cerevisiae*. *Science* 274: 1201-1204.
5. Hardy, C.F., et al. 1996. A novel role for Cdc5p in DNA replication. *Mol. Cell. Biol.* 16: 6775-6782.
6. Levine, K., et al. 1996. *Saccharomyces cerevisiae* G₁ cyclins differ in their intrinsic functional specificities. *Mol. Cell. Biol.* 16: 6794-6803.
7. Lim, H.H., et al. 1996. Cdc20, a β -transducin homologue, links RAD9-mediated G₂/M checkpoint control to mitosis in *Saccharomyces cerevisiae*. *Mol. Gen. Genet.* 253: 138-148.
8. Imniger, S., et al. 1997. The anaphase-promoting complex is required in G₁ arrested yeast cells to inhibit B-type cyclin accumulation and to prevent uncontrolled entry into S-phase. *J. Cell Sci.* 110: 1523-1531.

CHROMOSOMAL LOCATION

Genetic locus: Cdc26 (mouse) mapping to 4 B3.

PRODUCT

Cdc26 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cdc26 shRNA Plasmid (m): sc-142208-SH and Cdc26 shRNA (m) Lentiviral Particles: sc-142208-V as alternate gene silencing products.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support 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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Cdc26 siRNA (m) is recommended for the inhibition of Cdc26 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 μ M in 66 μ l. 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

Cdc26 (C-4): sc-377144 is recommended as a control antibody for monitoring of Cdc26 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Cdc26 gene expression knockdown using RT-PCR Primer: Cdc26 (m)-PR: sc-142208-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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