SANTA CRUZ BIOTECHNOLOGY, INC.

# Cks2 siRNA (h): sc-37568

## BACKGROUND

The Cdc2 p34-cyclin B complex plays a critical role in the cell cycle by regulating the $G_2$ to M phase transition. Also referred to as M phase promoting factor or MPF, this complex is a required component of the cell cycle machinery and is necessary for cell entry into mitosis. In *Saccharomyces cerevisiae*, this complex is known as Cdc28 and is associated with two proteins whose human homologs are called Cks1 and Cks2. Cks2 (Cyclin-dependent kinases regulatory subunit 2) is a 79 amino acid protein that binds to the catalytic subunit of cyclin-dependent kinases, such as those in the Cdc2 p34-cyclin B complex. An essential component of this cyclin/cyclin-dependent kinase complex, Cks2 contributes to cell cycle control and is able to form a homohexamer that can bind up to six subunits. Without proper activity of Cks2, the first metaphase/anaphase transition of meiosis can not occur.

## REFERENCES


1. Dunphy, W.G., et al. 1988. The *Xenopus* Cdc2 protein is a component of MPF, a cytoplasmic regulator of mitosis. Cell 54: 423-431.
2. Arion, D., et al. 1988. Cdc2 is a component of the M phase-specific Histone H1 kinase: evidence for identity with MPF. Cell 55: 371-378.
3. Morla, A.O., et al. 1989. Reversible tyrosine phosphorylation of Cdc2: dephosphorylation accompanies activation during entry into mitosis. Cell 58: 193-203.
4. Jessus, C., et al. 1992. Oscillation of MPF is accompanied by periodic association between Cdc25 and Cdc2-cyclin B. Cell 68: 323-332.
5. Demetrick, D.J., et al. 1996. Chromosomal mapping of the human genes Cks1 to 8q21 and Cks2 to 9q22. Cytogenet. Cell Genet. 73: 250-254.
6. Pines, J. 1997. Cell cycle: reaching for a role for the Cks proteins. Curr. Biol. 6: 1399-1402.
7. Egan, E.A., et al. 1998. Cyclin-stimulated binding of Cks proteins to cyclin-dependent kinases. Mol. Cell. Biol. 18: 3659-3667.
8. Spruck, C.H., et al. 2003. Requirement of Cks2 for the first metaphase/anaphase transition of mammalian meiosis. Science 300: 647-650.


## CHROMOSOMAL LOCATION

Genetic locus: CKS2 (human) mapping to 9q22.2.

## PRODUCT

Cks2 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 Cks2 shRNA Plasmid (h): sc-37568-SH and Cks2 shRNA (h) Lentiviral Particles: sc-37568-V as alternate gene silencing products.

For independent verification of Cks2 (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-37568A, sc-37568B and sc-37568C.

## 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

Cks2 siRNA (h) is recommended for the inhibition of Cks2 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.

## GENE EXPRESSION MONITORING

Cks2 (3B3): sc-81833 is recommended as a control antibody for monitoring of Cks2 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 Cks2 gene expression knockdown using RT-PCR Primer: Cks2 (h)-PR: sc-37568-PR (20 µl). 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.

## PROTOCOLS

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