

# CWC22 siRNA (h): sc-94265

## BACKGROUND

Spliceosomes are multi-protein complexes that are composed of snRNPs (small nuclear ribonucleoproteins) and a variety of associated protein factors, all of which work in concert to regulate the splicing of pre-mRNA, a critical step in the post-transcriptional regulation of gene expression. CWC22 (CWC22 spliceosome-associated protein), also known as NCM, fSAPb or EIF4GL, is a 908 amino acid nuclear protein and component of the spliceosome C complex. CWC22 is associated with the spliceosome prior to catalytic steps and remains associated throughout the reaction. Belonging to the CWC22 family, CWC22 contains one MI domain and a MIF4G domain. The gene encoding CWC22 maps to human chromosome 2q31.3. As the second largest human chromosome, chromosome 2 makes up approximately 8% of the human genome and contains 237 million bases encoding over 1,400 genes.

## REFERENCES

1. Ijdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. *Proc. Natl. Acad. Sci. USA* 88: 9051-9055.
2. Lindsey, L.A. and Garcia-Blanco, M.A. 1998. Functional conservation of the human homolog of the yeast pre-mRNA splicing factor Prp17p. *J. Biol. Chem.* 273: 32771-32775.
3. Ben-Yehuda, S., et al. 2000. Genetic and physical interactions between factors involved in both cell cycle progression and pre-mRNA splicing in *Saccharomyces cerevisiae*. *Genetics* 156: 1503-1517.
4. Zhou, Z., et al. 2002. Comprehensive proteomic analysis of the human spliceosome. *Nature* 419: 182-185.
5. Jurica, M.S., et al. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. *RNA* 8: 426-439.
6. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
7. Yeh, T.C., et al. 2011. Splicing factor cwc22 is required for the function of prp2 and for the spliceosome to escape from a futile pathway. *Mol. Cell. Biol.* 31: 43-53.

## CHROMOSOMAL LOCATION

Genetic locus: CWC22 (human) mapping to 2q31.3.

## PRODUCT

CWC22 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CWC22 shRNA Plasmid (h): sc-94265-SH and CWC22 shRNA (h) Lentiviral Particles: sc-94265-V as alternate gene silencing products.

For independent verification of CWC22 (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-94265A, sc-94265B and sc-94265C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

CWC22 siRNA (h) is recommended for the inhibition of CWC22 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  $\mu$ M in 66  $\mu$ 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

CWC22 (A-6): sc-398178 is recommended as a control antibody for monitoring of CWC22 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CWC22 gene expression knockdown using RT-PCR Primer: CWC22 (h)-PR: sc-94265-PR (20  $\mu$ 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.