SANTA CRUZ BIOTECHNOLOGY, INC.

Cdc5L siRNA (m): sc-62089

BACKGROUND

Cdc5L (cell division cycle 5-like protein, Pombe Cdc5-related protein) is a DNA-binding protein encoded by the human gene CDC5L. Cdc5L contains two HTH Myb-type DNA-binding domains and may shuttle between cytoplasm and nucleus. It is involved in cell cycle control and may act as a transcription activator. Cdc5L is a spliceosomal protein that is highly conserved across species. It is a member of a protein group that comprise the core of spliceosomal complexes and are essential for pre-mRNA splicing. Cdc5L is involved in the second catalytic step of pre-mRNA splicing, which involves cleavage at the 3' splice site and the ligation of the exons. This process releases the intact intron lariat. A chromosomal aberration involving Cdc5L is found in multicystic renal dysplasia. This aberration is caused by a translocation (t 6;19,p21;q13.1) with USF-2.

REFERENCES

1. Hirayama, T., et al. 1996. A cdc5^{+} homolog of a higher plant, *Arabidopsis thaliana*. Proc. Natl. Acad. Sci. USA 93: 13371-13376.
2. Bernstein, H.S., et al. 1997. Pombe Cdc5-related protein. A putative human transcription factor implicated in mitogen-activated signaling. J. Biol. Chem. 272: 5833-5837.
3. Groenen, P.M., et al. 1998. Rearrangement of the human CDC5L gene by a t(6;19)(p21;q13.1) in a patient with multicystic renal dysplasia. Genomics 49: 218-229.
4. Ajuh, P., et al. 2000. Functional analysis of the human CDC5L complex and identification of its components by mass spectrometry. EMBO J. 19: 6569-6581.
5. Ajuh, P., et al. 2001. A direct interaction between the carboxyl-terminal region of CDC5L and the WD40 domain of PLRG1 is essential for pre-mRNA splicing. J. Biol. Chem. 276: 42370-42381.
6. Jurica, M.S., et al. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. RNA 8: 426-439.
7. Leonard, D., et al. 2003. hLodestar/HuF2 interacts with CDC5L and is involved in pre-mRNA splicing. Biochem. Biophys. Res. Commun. 308: 793-801.

CHROMOSOMAL LOCATION

Genetic locus: Cdc5l (mouse) mapping to 17 B3.

PRODUCT

Cdc5L siRNA (m) 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 Cdc5L shRNA Plasmid (m): sc-62089-SH and Cdc5L shRNA (m) Lentiviral Particles: sc-62089-V as alternate gene silencing products.

For independent verification of Cdc5L (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62089A, sc-62089B and sc-62089C.

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

Cdc5L siRNA (m) is recommended for the inhibition of Cdc5L 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 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

Cdc5L (D-11): sc-398280 is recommended as a control antibody for monitoring of Cdc5L 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 Cdc5L gene expression knockdown using RT-PCR Primer: Cdc5L (m)-PR: sc-62089-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. Zhang, H.Y., et al. 2021. Cell division cycle 5-like regulates metaphase-to-anaphase transition in meiotic oocyte. Front. Cell Dev. Biol. 9: 671685.

RESEARCH USE

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