SANTA CRUZ BIOTECHNOLOGY, INC.

CCDC16 siRNA (m): sc-142090

BACKGROUND

CCDC16 (coiled-coil domain-containing protein 16), also known as ZNF830, OMCG1 (ovum mutant candidate gene 1) or SEL13, is a 372 amino acid protein that belongs to the C_2H_2-type zinc finger family of proteins. Localizing to the nucleus, CCDC16 contains one U1-type zinc finger motif and is involved in pre-mRNA splicing. CCDC16 functions as a component of a pre-mRNA splicing complex of the spliceosome (composed of AQR (aquarius), PRP19, CCDC16, HCNP, ISY1 and Cyclophilin E) and is required for proper RNA synthesis in the cell. Pre-mRNA splicing is essential to remove internal noncoding regions of pre-mRNA (introns) and to join the remaining segments (exons) into mRNA before translation. In preimplantation embryos, CCDC16 is believed to play an important role in cell cycle regulation. Further supporting its vital role in embryos, the disruption of CCDC16 leads to early embryonic lethality. Upon DNA damage, CCDC16 is phosphorylated by ATM or ATR.

REFERENCES

1. Bonaldo, M.F., et al. 1996. Normalization and subtraction: two approaches to facilitate gene discovery. Genome Res. 6: 791-806.
2. Artus, J., et al. 2005. Impaired mitotic progression and preimplantation lethality in mice lacking OMCG1, a new evolutionarily conserved nuclear protein. Mol. Cell. Biol. 25: 6289-6302.
3. Artus, J., et al. 2006. The cell cycle of early mammalian embryos: lessons from genetic mouse models. Cell Cycle 5: 499-502.
4. Sancho-Shimizu, V., et al. 2007. Molecular genetic analysis of two loci (Ity2 and Ity3) involved in the host response to infection with *Salmonella typhimurium* using congenic mice and expression profiling. Genetics 177: 1125-1139.
5. Kuraoka, I., et al. 2008. Isolation of XAB2 complex involved in pre-mRNA splicing, transcription, and transcription-coupled repair. J. Biol. Chem. 283: 940-950.

CHROMOSOMAL LOCATION

Genetic locus: Zfp830 (mouse) mapping to 11 C.

PRODUCT

CCDC16 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 CCDC16 shRNA Plasmid (m): sc-142090-SH and CCDC16 shRNA (m) Lentiviral Particles: sc-142090-V as alternate gene silencing products.

For independent verification of CCDC16 (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-142090A, sc-142090B and sc-142090C.

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 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

CCDC16 siRNA (m) is recommended for the inhibition of CCDC16 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CCDC16 gene expression knockdown using RT-PCR Primer: CCDC16 (m)-PR: sc-142090-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.