

CCDC33 siRNA (m): sc-142103

BACKGROUND

The coiled-coil domain is a structural motif found in proteins that are involved in a diverse array of biological functions such as the regulation of gene expression, cell division, membrane fusion and drug extrusion and delivery. CCDC33 (coiled-coil domain containing 33), also known as CT61 (cancer/testis antigen 61), is a 958 amino acid protein found primarily in male germ cells. Existing as at least four alternatively spliced isoforms, CCDC33 is implicated in spermatogenesis and contains one C2 domain. CCDC33 is encoded by a gene located on human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

REFERENCES

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2. Woolfson, D.N. 2005. The design of coiled-coil structures and assemblies. *Adv. Protein Chem.* 70: 79-112.
3. Midla, G.S. 2008. Diagnosis and management of patients with Marfan syndrome. *JAAPA* 21: 21-25.
4. Kaczmarek, K., et al. 2009. Ccdc33, a predominantly testis-expressed gene, encodes a putative peroxisomal protein. *Cytogenet. Genome Res.* 126: 243-252.
5. Dan, B. 2009. Angelman syndrome: current understanding and research prospects. *Epilepsia* 50: 2331-2339.
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7. Moutevelis, E. and Woolfson, D.N. 2009. A periodic table of coiled-coil protein structures. *J. Mol. Biol.* 385: 726-732.
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CHROMOSOMAL LOCATION

Genetic locus: Ccdc33 (mouse) mapping to 9 B.

PRODUCT

CCDC33 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CCDC33 shRNA Plasmid (m): sc-142103-SH and CCDC33 shRNA (m) Lentiviral Particles: sc-142103-V as alternate gene silencing products.

For independent verification of CCDC33 (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-142103A, sc-142103B and sc-142103C.

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

CCDC33 siRNA (m) is recommended for the inhibition of CCDC33 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

CCDC33 (H-2): sc-390852 is recommended as a control antibody for monitoring of CCDC33 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 CCDC33 gene expression knockdown using RT-PCR Primer: CCDC33 (m)-PR: sc-142103-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.

PROTOCOLS

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