

# CCDC77 siRNA (m): sc-142143

## 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. CCDC77 (Coiled-coil domain-containing protein 77) is a 488 amino acid protein that is encoded by a gene that maps to human chromosome 12p13.33. Encoding over 1,100 genes, chromosome 12 comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

## REFERENCES

1. Allen, T.L., et al. 1996. Cytogenetic and molecular analysis in trisomy 12p. *Am. J. Med. Genet.* 63: 250-256.
2. Gilbert, F., et al. 2000. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 12. Genet. Test.* 4: 319-333.
3. Montgomery, K.T., et al. 2001. A high-resolution map of human chromosome 12. *Nature* 409: 945-946.
4. Mason, J.M., et al. 2004. Coiled coil domains: stability, specificity, and biological implications. *Chembiochem* 5: 170-176.
5. Ota, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. *Nat. Genet.* 36: 40-45.
6. Riaz, N., et al. 2005. Genomewide significant linkage to stuttering on chromosome 12. *Am. J. Hum. Genet.* 76: 647-651.
7. Scherer, S.E., et al. 2006. The finished DNA sequence of human chromosome 12. *Nature* 440: 346-351.
8. Liu, J., et al. 2006. A seven-helix coiled coil. *Proc. Natl. Acad. Sci. USA* 103: 15457-15462.

## CHROMOSOMAL LOCATION

Genetic locus: Ccdc77 (mouse) mapping to 6 F1.

## PRODUCT

CCDC77 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CCDC77 shRNA Plasmid (m): sc-142143-SH and CCDC77 shRNA (m) Lentiviral Particles: sc-142143-V as alternate gene silencing products.

For independent verification of CCDC77 (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-142143A, sc-142143B and sc-142143C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

CCDC77 siRNA (m) is recommended for the inhibition of CCDC77 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  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CCDC77 gene expression knockdown using RT-PCR Primer: CCDC77 (m)-PR: sc-142143-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.