

# ANKRD34C siRNA (m): sc-141093

## BACKGROUND

Ankyrins are membrane adaptor molecules that play important roles in coupling integral membrane proteins to the spectrin-based cytoskeleton network. Mutations of ankyrin genes lead to severe genetic diseases, such as fatal cardiac arrhythmias and hereditary spherocytosis. ANKRD34C (ankyrin repeat domain 34C) is a 530 amino acid protein that contains four ANK repeats and belongs to the ANKRD34 family. Conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, ANKRD34C is encoded by a gene that maps to human chromosome 15q25.1. Chromosome 15 makes up approximately 3% of the human genome and contains 106 million base pairs encoding more than 700 genes. Angelman and Prader-Willi syndromes are associated with loss of function or deletion of genes on chromosome 15q. Tay-Sachs disease and Marfan syndrome are also associated with chromosome 15.

## REFERENCES

1. Zody, M.C., Garber, M., Sharpe, T., Young, S.K., Rowen, L., O'Neill, K., Whittaker, C.A., Kamal, M., Chang, J.L., Cuomo, C.A., Dewar, K., FitzGerald, M.G., Kodira, C.D., Madan, A., Qin, S., Yang, X., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. *Nature* 440: 671-675.
2. Cachón-González, M.B., Wang, S.Z., Lynch, A., Ziegler, R., Cheng, S.H. and Cox, T.M. 2006. Effective gene therapy in an authentic model of Tay-Sachs-related diseases. *Proc. Natl. Acad. Sci. USA* 103: 10373-10378.
3. Diene, G., Postel-Vinay, A., Pinto, G., Polak, M. and Tauber, M. 2007. The Prader-Willi syndrome. *Ann. Endocrinol.* 68: 129-137.
4. Lalande, M. and Calciano, M.A. 2007. Molecular epigenetics of Angelman syndrome. *Cell. Mol. Life Sci.* 64: 947-960.
5. Makoff, A.J. and Flomen, R.H. 2007. Detailed analysis of 15q11-q14 sequence corrects errors and gaps in the public access sequence to fully reveal large segmental duplications at breakpoints for Prader-Willi, Angelman, and inv dup(15) syndromes. *Genome Biol.* 8: R114.
6. ten Dijke, P. and Arthur, H.M. 2007. Extracellular control of TGF $\beta$  signalling in vascular development and disease. *Nat. Rev. Mol. Cell Biol.* 8: 857-869.

## CHROMOSOMAL LOCATION

Genetic locus: Ankrd34c (mouse) mapping to 9 E3.1.

## PRODUCT

ANKRD34C 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 ANKRD34C shRNA Plasmid (m): sc-141093-SH and ANKRD34C shRNA (m) Lentiviral Particles: sc-141093-V as alternate gene silencing products.

For independent verification of ANKRD34C (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-141093A, sc-141093B and sc-141093C.

## 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

ANKRD34C siRNA (m) is recommended for the inhibition of ANKRD34C 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 ANKRD34C gene expression knockdown using RT-PCR Primer: ANKRD34C (m)-PR: sc-141093-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.