

2700029M09Rik siRNA (m): sc-108815

BACKGROUND

C4orf27 (chromosome 4 open reading frame 27) is a 346 amino acid protein that is encoded by a gene that maps to human chromosome 4. Human chromosome 4 represents approximately 6% of the human genome and contains nearly 900 genes. Notably, the Huntingtin gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is located on chromosome 4. FGFR-3 is also encoded by a gene that maps to human chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease. The C4orf27 gene product and its mouse homolog, 2700029M09Rik, have been provisionally designated C4orf27 and 2700029M09Rik, respectively, pending further characterization.

REFERENCES

- Hillier, L.W., Graves, T.A., Fulton, R.S., Fulton, L.A., Pepin, K.H., Minx, P., Wagner-McPherson, C., Layman, D., Wylie, K., Sekhon, M., Becker, M.C., Fewell, G.A., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
- Cowan, C.M. and Raymond, L.A. 2006. Selective neuronal degeneration in Huntington's disease. *Curr. Top. Dev. Biol.* 75: 25-71.
- Chandler, R.J., Sloan, J., Fu, H., Tsai, M., Stabler, S., Allen, R., Kaestner, K.H., Kazanian, H.H. and Venditti, C.P. 2007. Metabolic phenotype of methylmalonic acidemia in mice and humans: the role of skeletal muscle. *BMC Med. Genet.* 8: 64.
- Cunningham, M.L., Seto, M.L., Ratisoonorn, C., Heike, C.L. and Hing, A.V. 2007. Syndromic craniosynostosis: from history to hydrogen bonds. *Orthod. Craniofac. Res.* 10: 67-81.
- de Frutos, C.A., Vega, S., Manzanares, M., Flores, J.M., Huertas, H., Martínez-Frías, M.L. and Nieto, M.A. 2007. Snail1 is a transcriptional effector of FGFR-3 signaling during chondrogenesis and achondroplasias. *Dev. Cell* 13: 872-883.
- Doherty, E.S., Lacbawan, F., Hadley, D.W., Brewer, C., Zalewski, C., Kim, H.J., Solomon, B., Rosenbaum, K., Domingo, D.L., Hart, T.C., Brooks, B.P., Immken, L., Lowry, R.B., Kimonis, V., Shanske, A.L., Jehee, F.S., et al. 2007. Muenke syndrome (FGFR-3-related craniosynostosis): Expansion of the phenotype and review of the literature. *Am. J. Med. Genet. A* 143: 3204-3215.
- Ruiz-Perez, V.L., Blair, H.J., Rodriguez-Andres, M.E., Blanco, M.J., Wilson, A., Liu, Y.N., Miles, C., Peters, H. and Goodship, J.A. 2007. EVC is a positive mediator of Ihh-regulated bone growth that localises at the base of chondrocyte cilia. *Development* 134: 2903-2912.
- Stack, E.C., Dedeoglu, A., Smith, K.M., Cormier, K., Kubilus, J.K., Bogdanov, M., Matson, W.R., Yang, L., Jenkins, B.G., Luthi-Carter, R., Kowall, N.W., Hersch, S.M., Beal, M.F. and Ferrante, R.J. 2007. Neuroprotective effects of synaptic modulation in Huntington's disease R6/2 mice. *J. Neurosci.* 27: 12908-12915.
- Versteegh, F.G., Buma, S.A., Costin, G., de Jong, W.C. and Hennekam, R.C. 2007. EvC Working Party. Growth hormone analysis and treatment in Ellis-van Creveld syndrome. *Am. J. Med. Genet. A* 143: 2113-2121.

CHROMOSOMAL LOCATION

Genetic locus: 2700029M09Rik (mouse) mapping to 8 B3.1.

PRODUCT

2700029M09Rik siRNA (m) is a target-specific 19-25 nt siRNA 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 2700029M09Rik shRNA Plasmid (m): sc-108815-SH and 2700029M09Rik shRNA (m) Lentiviral Particles: sc-108815-V as alternate gene silencing 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 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

2700029M09Rik siRNA (m) is recommended for the inhibition of 2700029M09Rik 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor 2700029M09Rik gene expression knockdown using RT-PCR Primer: 2700029M09Rik (m)-PR: sc-108815-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.