

C19orf63 siRNA (h): sc-97343

BACKGROUND

C19orf63 (chromosome 19 open reading frame 63) is a 262 amino acid protein that exists as two alternatively isoforms and are encoded by a gene located on human chromosome 19q13.33. Chromosome 19 consists of approximately 63 million bases and makes up over 2% of human genomic DNA. Chromosome 19 includes a diversity of interesting genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family, and Fc α receptors. Key genes for eye color and hair color also map to chromosome 19. Peutz-Jeghers syndrome, spinocerebellar ataxia type 6, the stroke disorder CADASIL, hypercholesterolemia and Insulin-dependent diabetes have been linked to chromosome 19. Translocations with chromosome 19 and chromosome 14 can be seen in some lymphoproliferative disorders and typically involve the proto-oncogene BCL3.

REFERENCES

1. Zimmermann, W., Weber, B., Ortlieb, B., Rudert, F., Schempp, W., Fiebig, H.H., Shively, J.E., von Kleist, S. and Thompson, J.A. 1988. Chromosomal localization of the carcinoembryonic antigen gene family and differential expression in various tumors. *Cancer Res.* 48: 2550-2554.
2. LaPoint, S.F., Patel, U. and Rubio, A. 2000. Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL). *Adv. Anat. Pathol.* 7: 307-321.
3. Trettel, F., Mantuano, E., Calabresi, V., Veneziano, L., Olsen, A.S., Georgescu, A., Gordon, L., Sabbadini, G., Frontali, M. and Jodice, C. 2000. A fine physical map of the CACNA1A gene region on 19p13.1-p13.2 chromosome. *Gene* 241: 45-50.
4. Buchet-Poyau, K., Mehenni, H., Radhakrishna, U. and Antonarakis, S.E. 2002. Search for the second Peutz-Jeghers syndrome locus: exclusion of the STK13, PRKCG, KLK10, and PSCD2 genes on chromosome 19 and the STK11IP gene on chromosome 2. *Cytogenet. Genome Res.* 97: 171-178.
5. Moodie, S.J., Norman, P.J., King, A.L., Fraser, J.S., Curtis, D., Ellis, H.J., Vaughan, R.W. and Ciclitira, P.J. 2002. Analysis of candidate genes on chromosome 19 in coeliac disease: an association study of the KIR and LILR gene clusters. *Eur. J. Immunogenet.* 29: 287-291.
6. Grimwood, J., Gordon, L.A., Olsen, A., Terry, A., Schmutz, J., Lamerdin, J., Hellsten, U., Goodstein, D., Couronne, O., Tran-Gyamfi, M., Aerts, A., Altherr, M., Ashworth, L., Bajorek, E., Black, S., et al. 2004. The DNA sequence and biology of human chromosome 19. *Nature* 428: 529-535.
7. Parham, P. 2005. Immunogenetics of killer cell immunoglobulin-like receptors. *Mol. Immunol.* 42: 459-462.
8. Brocke-Heidrich, K., Ge, B., Cvijic, H., Pfeifer, G., Löffler, D., Henze, C., McKeithan, T.W. and Horn, F. 2006. Bcl-3 is induced by IL-6 via Stat3 binding to intronic enhancer HS4 and represses its own transcription. *Oncogene* 25: 7297-7304.
9. Vekelis, M., Papatriantafyllou, J. and Karageorgiou, C.E. 2007. A novel CADASIL-causing mutation in a stroke patient. *Swiss Med. Wkly.* 137: 323-325.

CHROMOSOMAL LOCATION

Genetic locus: EMC10 (human) mapping to 19q13.33.

PRODUCT

C19orf63 siRNA (h) 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 C19orf63 shRNA Plasmid (h): sc-97343-SH and C19orf63 shRNA (h) Lentiviral Particles: sc-97343-V as alternate gene silencing products.

For independent verification of C19orf63 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-97343A, sc-97343B and sc-97343C.

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

C19orf63 siRNA (h) is recommended for the inhibition of C19orf63 expression in human 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 C19orf63 gene expression knockdown using RT-PCR Primer: C19orf63 (h)-PR: sc-97343-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.