

FAM193A siRNA (m): sc-141575

BACKGROUND

RES4-22, also known as FAM193A (family with sequence similarity 193, member A), is a 1,265 amino acid protein that belongs to the FAM193 family. Autoantibodies to RES4-22 have been detected in patients with neurological disorders, especially cerebral ischaemia. The RES4-22 gene is conserved in chimpanzee, canine, mouse, rat, chicken and zebrafish. Existing as four alternatively spliced isoforms, RES4-22 is located close to the Huntington's disease gene, which is found to encode an expanded glutamine tract on human chromosome 4p16.3. FGFR-3 is also encoded by a gene located on 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.

REFERENCES

1. Bucan, M., Zimmer, M., Whaley, W.L., Poustka, A., Youngman, S., Allitto, B.A., Ormondroyd, E., Smith, B., Pohl, T.M. and MacDonald, M. 1990. Physical maps of 4p16.3, the area expected to contain the Huntington disease mutation. *Genomics* 6: 1-15.
2. Hadano, S., Ishida, Y., Tomiyasu, H., Yamamoto, K., Bates, G.P. and Ikeda, J.E. 1996. Transcript map of the human chromosome 4p16.3 consisting of 627 cDNA clones derived from 1 Mb of the Huntington's disease locus. *DNA Res.* 3: 239-255.
3. Pribill, I., Barnes, G.T., Chen, J., Church, D., Buckler, A., Baxendale, S., Bates, G.P., Lehrach, H., Gusella, M.J., Duyao, M.P., Ambrose, C.M., Gusella, J.F. and MacDonald, M.E. 1997. Exon trapping and sequence-based methods of gene finding in transcript mapping of human 4p16.3. *Somat. Cell Mol. Genet.* 23: 413-427.
4. Hadano, S., Ishida, Y. and Ikeda, J.E. 1998. The primary structure and genomic organization of five novel transcripts located close to the Huntington's disease gene on human chromosome 4p16.3. *DNA Res.* 5: 177-186.
5. Amin, M., Uhlig, H.H., Kamprad, M., Karbe, J., Osman, A.A., Grahmann, F., Hummelsheim, H. and Mothes, T. 2001. Neurological disease-associated autoantibodies against an unknown protein encoded by a RES4-22 homologous gene. *Scand. J. Immunol.* 53: 204-208.
6. Versteegh, F.G., Buma, S.A., Costin, G., de Jong, W.C. and Hennekam, R.C. 2007. Growth hormone analysis and treatment in Ellis-van Creveld syndrome. *Am. J. Med. Genet. A* 143A: 2113-2121.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: Fam193a (mouse) mapping to 5 B2.

PROTOCOLS

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

PRODUCT

FAM193A 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 FAM193A shRNA Plasmid (m): sc-141575-SH and FAM193A shRNA (m) Lentiviral Particles: sc-141575-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

FAM193A siRNA (m) is recommended for the inhibition of FAM193A 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 FAM193A gene expression knockdown using RT-PCR Primer: FAM193A (m)-PR: sc-141575-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.