

SLC26A10 siRNA (h): sc-96162

BACKGROUND

SLC26A10 (solute carrier family 26, member 10) is a 563 amino acid multi-pass membrane protein that belongs to the SLC26A/SuIP transporter family. Functioning as a chloride/bicarbonate exchanger, SLC26A10 contains one STAS domain. Existing as two alternatively spliced isoforms, the SLC26A10 gene is conserved in canine, bovine, mouse, rat and zebrafish, and maps to human chromosome 12q13.3. Encoding over 1,100 genes within 132 million bases, chromosome 12 makes up about 4.5% of the human genome. Chromosome 12 is associated with a number of skeletal deformities, including hypochondrogenesis, achondrogenesis and Kniest dysplasia. Chromosome 12 is also home to a homeobox gene cluster which encodes crucial transcription factors for morphogenesis, and the natural killer complex gene cluster encoding C-type lectin proteins which mediate the NK cell response to MHC I interaction. Trisomy 12p leads to facial development defects, seizure disorders and a host of other symptoms varying in severity depending on the extent of mosaicism and is most severe in cases of complete trisomy.

REFERENCES

1. Allen, T.L., Brothman, A.R., Carey, J.C. and Chance, P.F. 1996. Cytogenetic and molecular analysis in trisomy 12p. *Am. J. Med. Genet.* 63: 250-256.
2. Lohi, H., Kujala, M., Kerkelä, E., Saarialho-Kere, U., Kestilä, M. and Kere, J. 2000. Mapping of five new putative anion transporter genes in human and characterization of SLC26A6, a candidate gene for pancreatic anion exchanger. *Genomics* 70: 102-112.
3. Zumkeller, W., Volleth, M., Muschke, P., Tönnies, H., Heller, A., Liehr, T., Wieacker, P. and Stumm, M. 2004. Genotype/phenotype analysis in a patient with pure and complete trisomy 12p. *Am. J. Med. Genet. A* 129A: 261-264.
4. Mount, D.B. and Romero, M.F. 2004. The SLC26 gene family of multi-functional anion exchangers. *Pflugers Arch.* 447: 710-721.
5. Kelley, J., Walter, L. and Trowsdale, J. 2005. Comparative genomics of natural killer cell receptor gene clusters. *PLoS Genet.* 1: 129-139.
6. Segel, R., Peter, I., Demmer, L.A., Cowan, J.M., Hoffman, J.D. and Bianchi, D.W. 2006. The natural history of trisomy 12p. *Am. J. Med. Genet. A* 140: 695-703.
7. Scherer, S.E., Muzny, D.M., Buhay, C.J., Chen, R., Cree, A., Ding, Y., Dugan-Rocha, S., Gill, R., Gunaratne, P., Harris, R.A., Hawes, A.C., Hernandez, J., Hodgson, A.V., Hume, J., Jackson, A., Khan, Z.M., Kovar-Smith, C., et al. 2006. The finished DNA sequence of human chromosome 12. *Nature* 440: 346-351.

CHROMOSOMAL LOCATION

Genetic locus: SLC26A10 (human) mapping to 12q13.3.

PROTOCOLS

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

PRODUCT

SLC26A10 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 SLC26A10 shRNA Plasmid (h): sc-96162-SH and SLC26A10 shRNA (h) Lentiviral Particles: sc-96162-V as alternate gene silencing products.

For independent verification of SLC26A10 (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-96162A, sc-96162B and sc-96162C.

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

SLC26A10 siRNA (h) is recommended for the inhibition of SLC26A10 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 SLC26A10 gene expression knockdown using RT-PCR Primer: SLC26A10 (h)-PR: sc-96162-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.