

TCHHL1 siRNA (m): sc-154138

BACKGROUND

TCHHL1 (trichohyalin-like protein 1), also known as basalin, protein S100-A17 or S100A17 (S100 calcium-binding protein A17), is a 904 amino acid protein that contains one EF-hand domain and belongs to the S-100 family. The gene that encodes TCHHL1 contains nearly 5,000 bases and maps to human chromosome 1q21.3. Chromosome 1 is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes Lamin A. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. The mechanism of rapidly enhanced aging is unclear and is a topic of continuing exploration. The MUTYH gene is located on chromosome 1 and is partially responsible for familial adenomatous polyposis. Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are also associated with chromosome 1.

REFERENCES

1. Dobbie, Z., Heinemann, K., Bishop, D.T., Müller, H. and Scott, R.J. 1997. Identification of a modifier gene locus on chromosome 1p35-36 in familial adenomatous polyposis. *Hum. Genet.* 99: 653-657.
2. Lau, E.K., Tayebi, N., Ingraham, L.J., Winfield, S.L., Koprivica, V., Stone, D.L., Zimran, A., Ginns, E.I. and Sidransky, E. 1999. Two novel polymorphic sequences in the glucocerebrosidase gene region enhance mutational screening and founder effect studies of patients with Gaucher disease. *Hum. Genet.* 104: 293-300.
3. Bowling, E.L., Brown, M.D. and Trundle, T.V. 2000. The Stickler syndrome: case reports and literature review. *Optometry* 71: 177-182.
4. Tayebi, N., Callahan, M., Madike, V., Stubblefield, B.K., Orvisky, E., Krasnewich, D., Fillano, J.J. and Sidransky, E. 2001. Gaucher disease and parkinsonism: a phenotypic and genotypic characterization. *Mol. Genet. Metab.* 73: 313-321.
5. Plasilova, M., Russell, A.M., Wanner, A., Wolf, A., Dobbie, Z., Müller, H.J. and Heinemann, K. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
6. Oliveira, S.A., Li, Y.J., Nouredine, M.A., Zuchner, S., Qin, X., Pericak-Vance, M.A. and Vance, J.M. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson disease. *Am. J. Hum. Genet.* 77: 252-264.
7. Betarbet, R., Anderson, L.R., Gearing, M., Hodges, T.R., Fritz, J.J., Lah, J.J. and Levey, A.I. 2008. Fas-associated factor 1 and Parkinson's disease. *Neurobiol. Dis.* 31: 309-315.
8. Yurov, Y.B., Iourov, I.Y., Vorsanova, S.G., Demidova, I.A., Kravetz, V.S., Beresheva, A.K., Kolotii, A.D., Monakhov, V.V., Uranova, N.A., Vostrikov, V.M., Soloviev, I.V. and Liehr, T. 2008. The schizophrenia brain exhibits low-level aneuploidy involving chromosome 1. *Schizophr. Res.* 98: 139-147.

CHROMOSOMAL LOCATION

Genetic locus: Tchl1 (mouse) mapping to 3 F2.1.

PRODUCT

TCHHL1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TCHHL1 shRNA Plasmid (m): sc-154138-SH and TCHHL1 shRNA (m) Lentiviral Particles: sc-154138-V as alternate gene silencing products.

For independent verification of TCHHL1 (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-154138A, sc-154138B and sc-154138C.

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

TCHHL1 siRNA (m) is recommended for the inhibition of TCHHL1 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 TCHHL1 gene expression knockdown using RT-PCR Primer: TCHHL1 (m)-PR: sc-154138-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.