

## FTHL19 siRNA (h): sc-90896

### BACKGROUND

FTHL19 (ferritin heavy polypeptide 1 pseudogene 19), also known as FTH1P19, is a 201 amino acid protein that belongs to the ferritin family and contains one ferritin-like diiron domain. The gene encoding FTHL19 maps to human chromosome Xp22.33. The human X chromosome consists of about 153 million base pairs and nearly 1,000 genes. The combination of an X and Y chromosome lead to normal male development, while two copies of X lead to normal female development. There are a number of conditions related to an unusual number and combination of sex chromosomes being inherited, including Turner's syndrome, Klinefelter's syndrome and Triple X syndrome. Color blindness, hemophilia, and Duchenne muscular dystrophy are well-known X chromosome-linked conditions that affect males more frequently as males carry a single X chromosome.

### REFERENCES

1. Wang, P.J., McCarrey, J.R., Yang, F. and Page, D.C. 2001. An abundance of X-linked genes expressed in spermatogonia. *Nat. Genet.* 27: 422-426.
2. Liorot, A., Boon, T. and De Smet, C. 2003. Five new human cancer-germline genes identified among 12 genes expressed in spermatogonia. *Int. J. Cancer* 105: 371-376.
3. Lee, S., Lee, S.H., Chung, T.G., Kim, H.J., Yoon, T.K., Kwak, I.P., Park, S.H., Cha, W.T., Cho, S.W. and Cha, K.Y. 2003. Molecular and cytogenetic characterization of two azoospermic patients with X-autosome translocation. *J. Assist. Reprod. Genet.* 20: 385-389.
4. Zhang, K., Gao, R., Zhang, H., Cai, X., Shen, C., Wu, C., Zhao, S. and Yu, L. 2005. Molecular cloning and characterization of three novel lysozyme-like genes, predominantly expressed in the male reproductive system of humans, belonging to the c-type lysozyme/ $\alpha$ -lactalbumin family. *Biol. Reprod.* 73: 1064-1071.
5. Atanackovic, D., Blum, I., Cao, Y., Wenzel, S., Bartels, K., Faltz, C., Hossfeld, D.K., Hegewisch-Becker, S., Bokemeyer, C. and Leuwer, R. 2006. Expression of cancer-testis antigens as possible targets for antigen-specific immunotherapy in head and neck squamous cell carcinoma. *Cancer Biol. Ther.* 5: 1218-1225.
6. Augui, S., Filion, G.J., Huart, S., Nora, E., Guggiari, M., Maresca, M., Stewart, A.F. and Heard, E. 2007. Sensing X chromosome pairs before X inactivation via a novel X-pairing region of the Xic. *Science* 318: 1632-1636.
7. Cocquet, J., Ellis, P.J., Yamauchi, Y., Mahadevaiah, S.K., Affara, N.A., Ward, M.A. and Burgoyne, P.S. 2009. The multicopy gene Sly represses the sex chromosomes in the male mouse germline after meiosis. *PLoS Biol.* 7: e1000244.
8. Poplinski, A., Wieacker, P., Kliesch, S. and Gromoll, J. 2010. Severe XIST hypomethylation clearly distinguishes (SRY+) 46,XX-maleness from Klinefelter syndrome. *Eur. J. Endocrinol.* 162: 169-175.
9. Leahy, T., Marti, J.I., Crossett, B., Evan, G. and Maxwell, W.M. 2011. Two-dimensional polyacrylamide gel electrophoresis of membrane proteins from flow cytometrically sorted ram sperm. *Theriogenology* 75: 962-971.

### CHROMOSOMAL LOCATION

Genetic locus: FTH1P19 (human) mapping to Xp22.33.

### PRODUCT

FTHL19 siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FTHL19 shRNA Plasmid (h): sc-90896-SH and FTHL19 shRNA (h) Lentiviral Particles: sc-90896-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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

FTHL19 siRNA (h) is recommended for the inhibition of FTHL19 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  $\mu$ M in 66  $\mu$ 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 FTHL19 gene expression knockdown using RT-PCR Primer: FTHL19 (h)-PR: sc-90896-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.