



## LYZL6 siRNA (h): sc-93725

### BACKGROUND

The origins of the lysozyme proteins date back an estimated 400 to 600 million years. Generally, lysozyme genes are relatively small, roughly 10 kilobases in length, and composed of four exons and three introns. Originally a bacteriolytic defensive agent, the function of this family of proteins adapted to serve a digestive function in its present forms. C-type lysozymes are specifically involved catalyzing the hydrolysis of  $\beta$ -1,4 glycosidic bonds of the peptidoglycan of bacterial cell walls. Lysozymes in tissues and body fluids are associated with the monocyte-macrophage system and enhance the activity of immunoagents. As a homolog of human C-type lysozyme, LYZL6 (Lysozyme-like protein 6) is a 148 amino acid secreted protein belonging to the glycosyl hydrolase 22 family. Due to its specific expression in human testis and epididymis, it is assumed that LYZL6 plays a role in the maturation and/or storage of sperm.

### REFERENCES

1. Peters, C.W., Kruse, U., Pollwein, R., Grzeschik, K.H. and Sippel, A.E. 1989. The human lysozyme gene. Sequence organization and chromosomal localization. *Eur. J. Biochem.* 182: 507-516.
2. Prager, E.M. and Jollès, P. 1996. Animal lysozymes c and g: an overview. *EXS* 75: 9-31.
3. Qasba, P.K. and Kumar, S. 1997. Molecular divergence of lysozymes and  $\alpha$ -lactalbumin. *Crit. Rev. Biochem. Mol. Biol.* 32: 255-306.
4. Nomiya, H., Fukuda, S., Iio, M., Tanase, S., Miura, R. and Yoshie, O. 1999. Organization of the chemokine gene cluster on human chromosome 17q11.2 containing the genes for CC chemokine MPIF-1, HCC-2, HCC-1, LEC, and RANTES. *J. Interferon Cytokine Res.* 19: 227-234.
5. Liu, F. and Wen, Z. 2002. Cloning and expression pattern of the lysozyme C gene in zebrafish. *Mech. Dev.* 113: 69-72.
6. 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.
7. Chapelle, M., Girard, P.A., Cousserans, F., Volkoff, N.A. and Duvic, B. 2009. Lysozymes and lysozyme-like proteins from the fall armyworm, *Spodoptera frugiperda*. *Mol. Immunol.* 47: 261-269.
8. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612751. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: LYZL6 (human) mapping to 17q12.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

### PRODUCT

LYZL6 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LYZL6 shRNA Plasmid (h): sc-93725-SH and LYZL6 shRNA (h) Lentiviral Particles: sc-93725-V as alternate gene silencing products.

For independent verification of LYZL6 (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-93725A, sc-93725B and sc-93725C.

### 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

LYZL6 siRNA (h) is recommended for the inhibition of LYZL6 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 LYZL6 gene expression knockdown using RT-PCR Primer: LYZL6 (h)-PR: sc-93725-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.