SANTA CRUZ BIOTECHNOLOGY, INC.

LYZL4 siRNA (h): sc-77966

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 β-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, LYZL4 (Lysozyme-like protein 4) is a 146 amino acid secreted protein belonging to the glycosyl hydrolase 22 family. Due to its specific expression in epithelium of human epididymis, most abundantly in the caput, it is assumed that LYZL4 plays a role in the maturation and/or storage of sperm.

REFERENCES

1. Peters, C.W., et al. 1989. The human lysozyme gene. Sequence organization and chromosomal localization. Eur. J. Biochem. 182: 507-516.
2. Grobler, J.A., et al. 1994. Sequences of two highly divergent canine type c lysozymes: implications for the evolutionary origins of the lysozyme/α-lactalbumin superfamily. Arch. Biochem. Biophys. 313: 360-366.
3. Prager, E.M. and Jollès, P. 1996. Animal lysozymes c and g: an overview. EXS 75: 9-31.
4. Irwin, D.M., et al. 1996. Isolation and characterization of vertebrate lysozyme genes. EXS 75: 225-241.
5. Qasba, P.K. and Kumar, S. 1997. Molecular divergence of lysozymes and α-lactalbumin. Crit. Rev. Biochem. Mol. Biol. 32: 255-306.
6. Lee-Huang, S., et al. 1999. Lysozyme and RNases as anti-HIV components in β-core preparations of human chorionic gonadotropin. Proc. Natl. Acad. Sci. USA 96: 2678-2681.
7. Liu, F. and Wen, Z. 2002. Cloning and expression pattern of the lysozyme C gene in zebrafish. Mech. Dev. 113: 69-72.

CHROMOSOMAL LOCATION

Genetic locus: LYZL4 (human) mapping to 3p22.1.

PRODUCT

LYZL4 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LYZL4 shRNA Plasmid (h): sc-77966-SH and LYZL4 shRNA (h) Lentiviral Particles: sc-77966-V as alternate gene silencing products.

For independent verification of LYZL4 (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-77966A, sc-77966B and sc-77966C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

LYZL4 siRNA (h) is recommended for the inhibition of LYZL4 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 µM in 66 µl. 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 LYZL4 gene expression knockdown using RT-PCR Primer: LYZL4 (h)-PR: sc-77966-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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