SANTA CRUZ BIOTECHNOLOGY, INC.

Hsfy2 siRNA (m): sc-75309

BACKGROUND

There are two genes that express different HSFY proteins, designated HSFY1 and HSFY2, which are thought to be nearly identical. Both HSFY (heat shock transcription factor, Y-linked) proteins are also known as HSF2L (heat shock transcription factor 2-like protein) and are 401 amino acids in length, expressed in testis, present in Sertoli and spermatogenic cells and localized to the cytoplasm and nucleus. HSFY proteins belong to the HSF (heat shock factor) family, which activate the transcription of heat shock proteins and contain an HSF-type DNA-binding domain. HSFY2 is active in two developmental pathways, embryogenesis and spermatogenesis, and is highly expressed. HSFY2 may regulate the promoter of many genes from the HSP 70 gene family, thus regulating their expression and the expression of many germ cell proteins. During spermatogenesis, HSFY proteins are translocated from the cytoplasm to the nucleus. In Sertoli cell-only syndrome, HSFY proteins are only localized to the cytoplasm. AZFs (azoospermic factors), such as AZFb, are regions on the long arm of chromosome Y that, when deleted, are thought to be involved in male azoospermia. A region of DNA that encodes a part of the genes of both HSFY1 and HSFY2 is located on the AZFb region on chromosome Y and, as such, may be involved in male fertility. Mouse Hsfy2 is the functional ortholog of human HSFY1 and is expressed specifically in round spermatids, while the two human HSFY proteins are expressed in both round spermatids and spermatogonia.

REFERENCES

1. Skaletsky, H., et al. 2003. The male-specific region of the human Y chromosome is a mosaic of discrete sequence classes. Nature 423: 825-837.
2. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 400029. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Shinka, T., et al. 2004. Molecular characterization of heat shock-like factor encoded on the human Y chromosome, and implications for male infertility. Biol. Reprod. 71: 297-306.
4. Tessari, A., et al. 2004. Characterization of HSFY, a novel AZFb gene on the Y chromosome with a possible role in human spermatogenesis. Mol. Hum. Reprod. 10: 253-258.

CHROMOSOMAL LOCATION

Genetic locus: Hsfy2 (mouse) mapping to 1 C1.3.

PRODUCT

Hsfy2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Hsfy2 shRNA Plasmid (m): sc-75309-SH and Hsfy2 shRNA (m) Lentiviral Particles: sc-75309-V as alternate gene silencing products.

For independent verification of Hsfy2 (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-75309A, sc-75309B and sc-75309C.

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

Hsfy2 siRNA (m) is recommended for the inhibition of Hsfy2 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 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 Hsfy2 gene expression knockdown using RT-PCR Primer: Hsfy2 (m)-PR: sc-75309-PR (20 µl). 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 for detailed protocols and support products.