SANTA CRUZ BIOTECHNOLOGY, INC.

HSFX2 siRNA (h): sc-91103

BACKGROUND

Prokaryotic and eukaryotic cells respond to thermal and chemical stress by inducing the expression of a group of genes that encode heat shock proteins. In eukaryotes, this gene expression is regulated primarily at the transcriptional level by a family of heat shock transcription factors (HSFs). HSFX2 (heat shock transcription factor family, X linked 2), also known as HSFX1, is a 423 amino acid nuclear and cytoplasmic protein that belongs to the HSF family. Expressed specifically in testis, HSFX2 is thought to be involved in spermatogenesis and male fertility. HSFX2 is encoded by a gene located on human chromosome Xq28. Chromosome X consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia and Duchenne muscular dystrophy are well known X chromosome-linked conditions which affect males more frequently, as males carry a single X chromosome.

REFERENCES

1. Tanguay, R.M. 1988. Transcriptional activation of heat-shock genes in eukaryotes. Biochem. Cell Biol. 66: 584-593.
2. Kawazoe, Y., et al. 1998. Proteasome inhibition leads to the activation of all members of the heat-shock-factor family. Eur. J. Biochem. 255: 356-362.
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. Ross, M.T., et. al. 2005. The DNA sequence of the human X chromosome. Nature 434: 325-337.
5. Lim, J., et al. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. Cell 125: 801-814.
6. Hayashi, T., et al. 2006. Novel form of a single X-linked visual pigment gene in a unique dichromatic color-vision defect. Vis. Neurosci. 23: 411-417.

CHROMOSOMAL LOCATION

Genetic locus: HSFX2 (human) mapping to Xq28.

PRODUCT

HSFX2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HSFX2 shRNA Plasmid (h): sc-91103-SH and HSFX2 shRNA (h) Lentiviral Particles: sc-91103-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 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

HSFX2 siRNA (h) is recommended for the inhibition of HSFX2 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 HSFX2 gene expression knockdown using RT-PCR Primer: HSFX2 (h)-PR: sc-91103-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.