

HSFX1 siRNA (h): sc-91365

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 transcription level by a family of heat shock transcription factors (HSFs). HSFX1 (heat shock transcription factor family, X linked 1), also known as LW-1, is a 423 amino acid protein that is predominately expressed in testis. Localized to the cytoplasm, HSFX1 is thought to be involved in spermatogenesis and male fertility.

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. Lim, J., et al. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. *Cell* 125: 801-814.
5. Sheen, C.R., et al. 2007. Double complex mutations involving F8 and FUND2 caused by distinct break-induced replication. *Hum. Mutat.* 28: 1198-1206.

CHROMOSOMAL LOCATION

Genetic locus: HSFX1 (human) mapping to Xq28.

PRODUCT

HSFX1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HSFX1 shRNA Plasmid (h): sc-91365-SH and HSFX1 shRNA (h) Lentiviral Particles: sc-91365-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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

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.

APPLICATIONS

HSFX1 siRNA (h) is recommended for the inhibition of HSFX1 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

HSFX1 (D-12): sc-514753 is recommended as a control antibody for monitoring of HSFX1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HSFX1 gene expression knockdown using RT-PCR Primer: HSFX1 (h)-PR: sc-91365-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.