SANTA CRUZ BIOTECHNOLOGY, INC.

SPANX-N3 siRNA (h): sc-90890

BACKGROUND

A variety of morphological and molecular changes are required for mature spermatozoa formation. These steps are temporally guided by the transcription and translation of several testis-specific genes. SPANX (sperm protein associated with the nucleus, X-linked) family members are sperm- and testis-specific proteins containing between 97-103 amino acids, whose genes form a cluster on chromosome X. SPANX-N3 (sperm protein associated with the nucleus on the X chromosome N3), also known as CT11.8 (cancer/testis antigen family 11, member 8), is a 141 amino acid protein that is encoded by a gene that maps to human chromosome Xq27.3. 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. Westbrook, V.A., et al. 2000. Spermatid-specific expression of the novel X-linked gene product SPAN-X localized to the nucleus of human spermatozoa. Biol. Reprod. 63: 469-481.
2. Zendman, A.J., et al. 2003. The human SPANX multigene family: genomic organization, alignment and expression in male germ cells and tumor cell lines. Gene 309: 125-133.
3. Westbrook, V.A., et al. 2004. Genomic organization, incidence, and localization of the SPAN-x family of cancer-testis antigens in melanoma tumors and cell lines. Clin. Cancer Res. 10: 101-112.
4. Kouprina, N., et al. 2004. The SPANX gene family of cancer/testis-specific antigens: rapid evolution and amplification in African great apes and hominids. Proc. Natl. Acad. Sci. USA 101: 3077-3082.
5. Kouprina, N., et al. 2005. Dynamic structure of the SPANX gene cluster mapped to the prostate cancer susceptibility locus HPCX at Xq27. Genome Res. 15: 1477-1486.
6. Westbrook, V.A., et al. 2006. Hominoid-specific SPANXA/D genes demonstrate differential expression in individuals and protein localization to a distinct nuclear envelope domain during spermatid morphogenesis. Mol. Hum. Reprod. 12: 703-716.

CHROMOSOMAL LOCATION

Genetic locus: SPANXN3 (human) mapping to Xq27.3.

PRODUCT

SPANX-N3 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 SPANX-N3 shRNA Plasmid (h): sc-90890-SH and SPANX-N3 shRNA (h) Lentiviral Particles: sc-90890-V as alternate gene silencing products.

For independent verification of SPANX-N3 (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-90890A, sc-90890B and sc-90890C.

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

SPANX-N3 siRNA (h) is recommended for the inhibition of SPANX-N3 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 SPANX-N3 gene expression knockdown using RT-PCR Primer: SPANX-N3 (h)-PR: sc-90890-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.