SANTA CRUZ BIOTECHNOLOGY, INC.

SPANX-N4 siRNA (h): sc-90880

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 whose genes form a cluster on chromosome X. Sharing a high level of sequence similarity, SPANX-A, -B, -C, -D and -E localize to both cytoplasm and nucleus where they are associated with nuclear craters. SPANX-N4 (sperm protein associated with the nucleus on the X chromosome N4) is a 99 amino acid protein belonging to the SPAN-X family and is one of four subgroups of SPANX-N, an ancestral form of SPAN-X.

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. Westbrook, V.A., et al. 2001. Differential nuclear localization of the cancer/testis-associated protein, SPAN-X/CTp11, in transfected cells and in 50% of human spermatozoa. Biol. Reprod. 64: 345-358.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. Kouprina, N., et al. 2007. Evolutionary diversification of SPANX-N sperm protein gene structure and expression. PLoS ONE 2: e359.
9. Kouprina, N., et al. 2007. Mutational analysis of SPANX genes in families with X-linked prostate cancer. Prostate 67: 820-828.

CHROMOSOMAL LOCATION

Genetic locus: SPANXN4 (human) mapping to Xq27.3.

PROTOCOLS

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

PRODUCT

SPANX-N4 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-N4 shRNA Plasmid (h): sc-90880-SH and SPANX-N4 shRNA (h) Lentiviral Particles: sc-90880-V as alternate gene silencing products.

For independent verification of SPANX-N4 (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-90880A, sc-90880B and sc-90880C.

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-N4 siRNA (h) is recommended for the inhibition of SPANX-N4 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.

RESEARCH USE

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