SANTA CRUZ BIOTECHNOLOGY, INC.

Testisin siRNA (h): sc-72136

BACKGROUND

Testisin, also known as ESP-1, plays an important role in spermatogenesis and fertilization. Originally identified as a testis-specific serine protease, this protein may also play important regulatory roles in other biological systems linked to capillary morphogenesis and angiogenesis. Immunostaining for Testisin in round and elongating spermatids demonstrates specific staining in the cytoplasm and on the plasma membrane. The Testisin gene localizes to the short arm of human chromosome 16 (16p13.3). Alternative pre-mRNA splicing gives rise to two different isoforms. The Testisin gene is expressed in normal testis cells and not in testis tumor cell lines, but only in ovarian carcinoma and not normal ovary cells. Therefore, loss of expression in testicular cells or induction of expression in ovarian cells may play a role in the development, progression, and invasive capacity of testicular/ovarian tumors.

REFERENCES

1. Hooper, J.D., et al. 1999. Testisin, a new human serine proteinase expressed by premeiotic testicular germ cells and lost in testicular germ cell tumors. Cancer Res. 59: 3199-3205.
2. Hooper, J.D., et al. 2000. Localization, expression and genomic structure of the gene encoding the human serine protease testisin. Biochim. Biophys. Acta 1492: 63-71.
3. Shigemasa, K., et al. 2000. Overexpression of Testisin, a serine protease expressed by testicular germ cells, in epithelial ovarian tumor cells. J. Soc. Gynecol. Investig. 7: 358-362.
4. Scarman, A.L., et al. 2001. Organization and chromosomal localization of the murine Testisin gene encoding a serine protease temporally expressed during spermatogenesis. Eur. J. Biochem. 268: 1250-1258.
5. Nakamura, Y., et al. 2003. Cloning, expression analysis, and tissue distribution of ESP-1 /Testisin, a membrane-type serine protease from the rat. J. Med. Invest. 50: 78-86.
6. Aimes, R.T., et al. 2003. Endothelial cell serine proteases expressed during vascular morphogenesis and angiogenesis. Thromb. Haemost. 89: 561-572.

CHROMOSOMAL LOCATION

Genetic locus: PRSS21 (human) mapping to 16p13.3.

PRODUCT

Testisin 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 Testisin shRNA Plasmid (h): sc-72136-SH and Testisin shRNA (h) Lentiviral Particles: sc-72136-V as alternate gene silencing products.

For independent verification of Testisin (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-72136A, sc-72136B and sc-72136C.

RESEARCH USE

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

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

Testisin siRNA (h) is recommended for the inhibition of Testisin 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 Testisin gene expression knockdown using RT-PCR Primer: Testisin (h)-PR: sc-72136-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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