SANTA CRUZ BIOTECHNOLOGY, INC.

BPY2 siRNA (h): sc-91556

BACKGROUND

Mammalian spermatogenesis is a complex developmental process. Mutations at multiple loci and in structurally and functionally disparate genes in the genome affect gametogenesis. The analysis of mutations has provided insight into biochemical pathways required for completion of this process. The basic protein on Y chromosome 2 gene (BPY2, also designated VCY2) is located in a frequently deleted azoospermia factor c region. Three copies (paralogs) of the BPY2 gene (BPY2A, BPY2B, BPY2C) reside in the AZFc region. BPY2 protein expression is localized to the nuclei of spermatogonia, spermatocytes and round spermatids, but is absent from elongated spermatids. Impaired expression of BPY2 in infertile men suggests its involvement in male germ cell development. BPY2 interacts with MAP-1S, which shares homology with microtubule-associated proteins (MAPs), suggesting a role for BPY2 within the cytoskeletal network.

REFERENCES

1. Wong, E.Y., et al. 2002. VCY2 protein interacts with the HECT domain of ubiquitin-protein ligase E3A. Biochem. Biophys. Res. Commun. 296: 1104-1111.
2. Tse, J.Y., et al. 2003. Specific expression of VCY2 in human male germ cells and its involvement in the pathogenesis of male infertility. Biol. Reprod. 69: 746-751.
3. Wong, E.Y., et al. 2004. Identification and characterization of human VCY2-interacting protein: VCY2IP-1, a microtubule-associated protein-like protein. Biol. Reprod. 70: 775-784.
4. Choi, J., et al. 2007. Alu sequence variants of the BPY2 gene in proven fertile and infertile men with Sertoli cell-only phenotype. Int. J. Urol. 14: 431-435.
5. Sadeghi-Nejad, H., et al. 2007. Genetics of azoospermia: current knowedge, clinical implications, and future directions. Part II: Y chromosome microdeletions. Urol. J. 4: 192-206.
6. Nuti, F., et al. 2008. Gene polymorphisms/mutations relevant to abnormal spermatogenesis. Reprod. Biomed. Online 16: 504-513.

CHROMOSOMAL LOCATION

Genetic locus: BPY2 (human) mapping to Yq11.223.

PRODUCT

BPY2 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 BPY2 shRNA Plasmid (h): sc-91556-SH and BPY2 shRNA (h) Lentiviral Particles: sc-91556-V as alternate gene silencing products.

PROTOCOLS

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

BPY2 siRNA (h) is recommended for the inhibition of BPY2 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 BPY2 gene expression knockdown using RT-PCR Primer: BPY2 (h)-PR: sc-91556-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.