SANTA CRUZ BIOTECHNOLOGY, INC.

AZ3 siRNA (h): sc-88239

BACKGROUND

The antizyme family is a group of small proteins that play a role in cell growth and division by regulating the biosynthesis of polyamines such as putrescine, spermidine and spermine. AZ3, also known as OAZ3 (Ornithine decarboxylase antizyme 3), is a 187 amino acid protein that belongs to the ODC antizyme family. AZ3 probably plays a key role in spermatogenesis by regulating the intracellular concentration of polyamines in haploid germ cells because it binds to, and destabilizes, ornithine decarboxylase. However, mutations in the AZ3 gene are not a common cause of male infertility and the normal AZ3 protein does not accelerate ornithine decarboxylase degeneration. AZ3 expression has a sharp onset in early spermatids, peaks in later stages and is gone in spermatozoa. The AZ3 gene maps to human chromosome 1q21.3.

REFERENCES

1. Coffino, P. 2000. Polyamines in spermiogenesis: not now, darling. Proc. Natl. Acad. Sci. USA 97: 4421-4423.
2. Ivanov, I.P., et al. 2000. Discovery of a spermatogenesis stage-specific ornithine decarboxylase antizyme: antizyme 3. Proc. Natl. Acad. Sci. USA 97: 4808-4813.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605138. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Ota, T., et al. 2004. Complete sequencing and characterization of 21, 243 full-length human cDNAs. Nat. Genet. 36: 40-45.
5. Zhang, J., et al. 2005. Yeast two-hybrid screens imply that GGNBP1, GGNBP2 and OAZ3 are potential interaction partners of testicular germ cell-specific protein GGN1. FEBS Lett. 579: 559-566.
6. Christensen, G.L., et al. 2006. Identification of polymorphisms and balancing selection in the male infertility candidate gene, ornithine decarboxylase antizyme 3. BMC Med. Genet. 7: 27.

CHROMOSOMAL LOCATION

Genetic locus: OAZ3 (human) mapping to 1q21.3.

PRODUCT

AZ3 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 AZ3 shRNA Plasmid (h): sc-88239-SH and AZ3 shRNA (h) Lentiviral Particles: sc-88239-V as alternate gene silencing products.

For independent verification of AZ3 (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-88239A, sc-88239B and sc-88239C.

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

AZ3 siRNA (h) is recommended for the inhibition of AZ3 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 AZ3 gene expression knockdown using RT-PCR Primer: AZ3 (h)-PR: sc-88239-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.