SANTA CRUZ BIOTECHNOLOGY, INC.

ZCCHC5 siRNA (h): sc-91023

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZCCHC5 (zinc finger CCHC domain-containing protein 5), also known as Mar3, ZHC5 or Mart3, is a 475 amino acid protein that contains one CCHC-type zinc finger, suggesting a role in transcriptional regulation. The gene encoding ZCCHC5 belongs to the family of gag-related retrotransposon genes, however, ZCCHC5 has lost the ability to retrotranspose, suggesting a newly acquired function. The ZCCHC5 gene maps to human chromosome Xq21.1 and mouse chromosome X D. The human X chromosome consists of about 153 million base pairs and nearly 1,000 genes. The X and Y chromosomes are the human sex chromosomes. There are a number of conditions related to an unusual number and combinations of sex chromosomes being inherited, such as Klinefelter's syndrome, Turner's syndrome and triple X syndrome.

REFERENCES

1. Givens, J.R., et al. 1975. Features of Turner's syndrome in women with polycystic ovaries. Obstet. Gynecol. 45: 619-624.
2. Bernardino-Sgherri, J., et al. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. Cytogenet. Genome Res. 99: 85-91.
3. Brandt, J., et al. 2005. A family of neofunctionalized Ty3/gypsy retrotransposon genes in mammalian genomes. Cytogenet. Genome Res. 110: 307-317.
4. Ross, M.T., et al. 2005. The DNA sequence of the human X chromosome. Nature 434: 325-337.
5. Rolle, U., et al. 2007. Duodenal atresia in an infant with triple-X syndrome: a new associated malformation in 47,XXX. Birth Defects Res. Part A Clin. Mol. Teratol. 79: 612-613.
6. Augui, S., et al. 2007. Sensing X chromosome pairs before X inactivation via a novel X-pairing region of the Xic. Science 318: 1632-1636.

CHROMOSOMAL LOCATION

Genetic locus: ZCCHC5 (human) mapping to Xq21.1.

PRODUCT

ZCCHC5 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 ZCCHC5 shRNA Plasmid (h): sc-91023-SH and ZCCHC5 shRNA (h) Lentiviral Particles: sc-91023-V as alternate gene silencing products.

For independent verification of ZCCHC5 (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-91023A, sc-91023B and sc-91023C.

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

ZCCHC5 siRNA (h) is recommended for the inhibition of ZCCHC5 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 ZCCHC5 gene expression knockdown using RT-PCR Primer: ZCCHC5 (h)-PR: sc-91023-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.