SANTA CRUZ BIOTECHNOLOGY, INC.

HTF9C siRNA (m): sc-146111

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The Power to Question

BACKGROUND

HTF9C (Hpall tiny fragments locus 9c protein) is also known as TRMT2A (tRNA (uracil-5-)-methyltransferase homolog A) and is a 625 amino acid protein that is expressed as two isoforms. In mice, HTF9C is transcribed by a bidirectional promoter along with Ran BP-1 and the transcription of both genes is regulated during the cell cycle. During the S phase, the genes of HTF9C and Ran BP-1 are quickly transcribed into mRNA which is produced the most during this phase and mRNA production decreases during mitosis. The bidirectional promoter is down-regulated in growth-arrested cells and is activated during the G_1/S transition. This co-regulation of the HTF9C and Ran BP-1 genes is an evolutionarily conserved trait present in many species that possess two proteins that may have related functions. The genes of both HTF9C and Ran BP-1 are expressed in human cells and are highly conserved among species. The human HTF9C gene is thought to be associated with a deficit in sustained attention observed among patients with schizophrenia.

REFERENCES

1. Bressan, A., Somma, M.P., Lewis, J., Santolamazza, C., Copeland, N.G., Gilbert, D.J., Jenkins, N.A. and Lavia, P. 1991. Characterization of the opposite-strand genes from the mouse bidirectionally transcribed HTF9 locus. Gene 103: 201-209.
2. Guarguaglini, G., Battistoni, A., Pittoggi, C., Di Matteo, G., Di Fiore, B. and Lavia, P. 1997. Expression of the murine RanBP1 and HTF9C genes is regulated from a shared bidirectional promoter during cell cycle progression. Biochem. J. 325: 277-286.
3. Puech, A., Saint-Jore, B., Funke, B., Gilbert, D.J., Sirotkin, H., Copeland, N.G., Jenkins, N.A., Kucherlapati, R., Morrow, B. and Skoultchi, A.I. 1997. Comparative mapping of the human 22q11 chromosomal region and the orthologous region in mice reveals complex changes in gene organization. Proc. Natl. Acad. Sci. USA 94: 14608-14613.
4. Di Matteo, G., Salerno, M., Guarguaglini, G., Di Fiore, B., Palitti, F. and Lavia, P. 1998. Interactions with single-stranded and double-stranded DNA-binding factors and alternative promoter conformation upon transcriptional activation of the Htf9-a/RanBP1 and HTF9C genes. J. Biol. Chem. 273: 495-505.
5. Liu, Y.L., Fann, C.S., Liu, C.M., Chang, C.C., Yang, W.C., Wu, J.Y., Hung, S.I., Chan, H.Y., Chen, J.J., Hsieh, M.H., Hwang, T.J., Faraone, S.V., Tsuang, M.T., Chen, W.J. and Hwu, H.G. 2007. HTF9C gene of 22q11.21 region associates with schizophrenia having deficit-sustained attention. Psychiatr. Genet. 17: 333-338.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611151. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Trmt2a (mouse) mapping to 16 A3.

PROTOCOLS

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

PRODUCT

HTF9C siRNA (m) 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 HTF9C shRNA Plasmid (m): sc-146111-SH and HTF9C shRNA (m) Lentiviral Particles: sc-146111-V as alternate gene silencing products.

For independent verification of HTF9C (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-146111A, sc-146111B and sc-146111C.

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

HTF9C siRNA (m) is recommended for the inhibition of HTF9C expression in mouse 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 HTF9C gene expression knockdown using RT-PCR Primer: HTF9C (m)-PR: sc-146111-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.