SANTA CRUZ BIOTECHNOLOGY, INC.

FTSJ2 siRNA (h): sc-89863

BACKGROUND

FTSJ2 (putative ribosomal RNA methyltransferase 2, rRNA (uridine-2'-O-)-methyltransferase) is a widely expressed nuclear protein that belongs to the RrmJ family of the methyltransferase superfamily. Methyltransferases are a type of transferase enzyme which transfers a methyl group to nucleic bases in DNA or amino acids in protein. FTSJ2 belongs to a group of evolutionarily conserved S-adenosylmethionine-binding proteins. FTSJ2 shares significant sequence homology with FtsJ/RrmJ, an *Escherichia coli* 23S rRNA uridine-2'-O-methyltransferase. It is likely that FTSJ2 also functions as a nucleolar RNA methyltransferase involved in eukaryotic RNA processing and modification. The gene encoding the FTSJ2 protein is located on chromosome 7p22.3 between MAD1L1 and NUDT1. FTSJ2 transcripts are abundant in skeletal muscle, placenta, and heart, as well as in cancer cells.

REFERENCES

1. Scott, H.S., et al. 1998. Identification and characterization of two putative human arginine methyltransferases (HRMT1L1 and HRMT1L2). Genomics 48: 330-340.
2. Jin, D.Y., et al. 1999. Mitotic checkpoint locus MAD1L1 maps to human chromosome 7p22 and mouse chromosome 5. Genomics 55: 363-364.
3. Caldas, T., et al. 2000. The FtsJ/RrmJ heat shock protein of *Escherichia coli* is a 23 S ribosomal RNA methyltransferase. J. Biol. Chem. 275: 16414-16419.
4. Ching, Y.P., et al. 2002. Identification and characterization of FTSJ2, a novel human nucleolar protein homologous to bacterial ribosomal RNA methyltransferase. Genomics 79: 2-6.
5. Hager, J., et al. 2002. Active site in RrmJ, a heat shock-induced methyltransferase. J. Biol. Chem. 277: 41978-41986.
6. Hager, J., et al. 2004. Substrate binding analysis of the 23S rRNA methyltransferase RrmJ. J. Bacteriol. 186: 6634-6642.

CHROMOSOMAL LOCATION

Genetic locus: FTSJ2 (human) mapping to 7p22.3.

PRODUCT

FTSJ2 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 FTSJ2 shRNA Plasmid (h): sc-89863-SH and FTSJ2 shRNA (h) Lentiviral Particles: sc-89863-V as alternate gene silencing products.

For independent verification of FTSJ2 (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-89863A, sc-89863B and sc-89863C.

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

FTSJ2 siRNA (h) is recommended for the inhibition of FTSJ2 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.

GENE EXPRESSION MONITORING

FTSJ2 (2372C6a): sc-81647 is recommended as a control antibody for monitoring of FTSJ2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FTSJ2 gene expression knockdown using RT-PCR Primer: FTSJ2 (h)-PR: sc-89863-PR (20 µl, 583 bp). 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.