SANTA CRUZ BIOTECHNOLOGY, INC.

GTF3A siRNA (m): sc-145823

BACKGROUND

Ribosomal 5S RNA (5S rRNA) exists as part of a larger ribosomal subunit and is thought to stabilize ribosome structure, thereby helping protein synthesis. GTF3A (general transcription factor IIIA) is also known as factor A, AP2 or TFIIIA (transcription factor IIIA) and is a 365 amino acid protein that is localized to the nucleus and is primarily expressed in brain and ovary. GTF3A is a Pol III transcription factor that binds to the internal control region of 5S RNA genes in order to regulate their expression. After GTF3A binds to the internal control region of the 5S RNA gene, the transcription initiation complex is able to form. GTF3A is also a transcript chaperone for 5S RNA to be moved to the cytoplasm where it is stored as a GTF3A-5S RNA complex, which is known as a 7S ribonucleoprotein. GTF3A possesses nine C_2H_2-type zinc fingers and has a C-terminal region without zinc fingers. The multiple zinc finger configuration of GTF3A allows it to bind to DNA at many locations along the internal control region, and is thought to be important for GTF3A to stay bound to DNA while facilitating many rounds of transcription.

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CHROMOSOMAL LOCATION

Genetic locus: Gtf3a (mouse) mapping to 5 G3.

PRODUCT

GTF3A siRNA (m) 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 GTF3A shRNA Plasmid (m): sc-145823-SH and GTF3A shRNA (m) Lentiviral Particles: sc-145823-V as alternate gene silencing 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

GTF3A siRNA (m) is recommended for the inhibition of GTF3A 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 GTF3A gene expression knockdown using RT-PCR Primer: GTF3A (m)-PR: sc-145823-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.