SANTA CRUZ BIOTECHNOLOGY, INC.

DMRT3 siRNA (h): sc-77159

BACKGROUND

In humans, the DMRT (doublesex and MAB-3 related transcription factor) genes encode a large family of transcription factors that are related to the *Drosophila* doublesex proteins. Expressed primarily in the gonads, DMRT proteins contain cysteine-rich DNA-binding motifs and are thought to play an important role in sexual development. DMRT3 (doublesex and MAB-3 related transcription factor 3), also known as DMRTA3, is a 472 amino acid protein that contains one DM DNA-binding domain and belongs to the DMRT family. Localized to the nucleus, DMRT3 is expressed specifically in testis and is thought to regulate transcriptional events during early sexual development. The gene encoding DMRT3 maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and Familial dysautonomia, are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

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CHROMOSOMAL LOCATION

Genetic locus: DMRT3 (human) mapping to 9p24.3.

PRODUCT

DMRT3 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 DMRT3 shRNA Plasmid (h): sc-77159-SH and DMRT3 shRNA (h) Lentiviral Particles: sc-77159-V as alternate gene silencing products.

For independent verification of DMRT3 (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-77159A, sc-77159B and sc-77159C.

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

DMRT3 siRNA (h) is recommended for the inhibition of DMRT3 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 DMRT3 gene expression knockdown using RT-PCR Primer: DMRT3 (h)-PR: sc-77159-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.