SANTA CRUZ BIOTECHNOLOGY, INC.

DMRTB1 siRNA (m): sc-143062

BACKGROUND

In humans, the DMRT genes encode a large family of transcription factors that are related to the *Drosophila* doublesex proteins. Expressed primarily in the gonads, the DMRT proteins contain cysteine-rich DNA-binding motifs and are thought to play an important role in sexual development. DMRTB1 (doublesex- and mab-3-related transcription factor B1) is a 342 amino acid protein that contains one DM DNA-binding domain and belongs to the DMRT family. Localized to the nucleus and expressed in the testis, DMRTB1 may participate in developmental processes and, via its DM domain, may bind to DNA and regulate transcription.

REFERENCES

1. Brunner, B., et al. 2001. Genomic organization and expression of the double-sex-related gene cluster in vertebrates and detection of putative regulatory regions for DMRT1. Genomics 77: 8-17.
2. Ottolenghi, C., et al. 2002. Novel paralogy relations among human chromosomes support a link between the phylogeny of doublesex-related genes and the evolution of sex determination. Genomics 79: 333-343.
3. Kim, S., et al. 2003. Sexually dimorphic expression of multiple doublesex-related genes in the embryonic mouse gonad. Gene Expr. Patterns 3: 77-82.
4. Shui, Y., et al. 2004. Cloning of four members of giant panda Dmrt genes. Yi Chuan Xue Bao 31: 468-473.
5. Hong, C.S., et al. 2007. The function of Dmrt genes in vertebrate development: it is not just about sex. Dev. Biol. 310: 1-9.
6. El-Mogharbel, N., et al. 2007. DMRT gene cluster analysis in the platypus: new insights into genomic organization and regulatory regions. Genomics 89: 10-21.
7. Matsushita, Y., et al. 2007. Expression of DMRT genes in the gonads of *Rana rugosa* during sex determination. Zool. Sci. 24: 95-99.

CHROMOSOMAL LOCATION

Genetic locus: Dmrtb1 (mouse) mapping to 4 C7.

PRODUCT

DMRTB1 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 DMRTB1 shRNA Plasmid (m): sc-143062-SH and DMRTB1 shRNA (m) Lentiviral Particles: sc-143062-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

DMRTB1 siRNA (m) is recommended for the inhibition of DMRTB1 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 DMRTB1 gene expression knockdown using RT-PCR Primer: DMRTB1 (m)-PR: sc-143062-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.