SANTA CRUZ BIOTECHNOLOGY, INC.

HoxA10 siRNA (m): sc-38685

BACKGROUND

The Hox homeobox genes encode proteins that are transcriptional regulators with an established role in embryonic development. The HoxA10 gene is related to the Abdominal B (AbdB) homeobox subfamily of genes and is expressed in both the developing genitourinary tract and in the adult uterus. HoxA10 expression increases during the midsecretory phase of the menstrual cycle, which corresponds with increased levels of circulating progesterone, as evidenced by Northern blot analysis. Furthermore, HoxA10 expression increases in a concentration-dependent manner with progesterone stimulation in cultured endometrial cells and is blocked by the progesterone receptor antagonist RU486. In addition, HoxA10 is differentially expressed in the myometrium throughout the menstrual cycle, both *in vivo* and *in vitro,* with decreased expression coinciding with increased progesterone levels. In contrast with a control group, female patients with documented endometriosis do not exhibit a mid-luteal increase in uterine Hox gene expression, which may contribute to the pathology of the disease.

REFERENCES

1. Acampora, D., et al. 1989. The human HOX gene family. Nucleic Acids Res. 17: 10385-10402.
2. Satokata, I., et al. 1995. Sexually dimorphic sterility phenotypes in HoxA10-deficient mice. Nature 374: 460-463.
3. Taylor, H.S., et al. 1998. HoxA10 is expressed in response to sex steroids at the time of implantation in the human endometrium. J. Clin. Invest. 101: 1379-1384.
4. Ma, L., et al. 1998. Abdominal B (AbdB) HoxA genes: regulation in adult uterus by estrogen and progesterone and repression in mullerian duct by the synthetic estrogen diethylstilbestrol (DES). Dev. Biol. 197: 141-154.
5. Taylor, H.S., et al. 1999. Hox gene expression is altered in the endometrium of women with endometriosis. Hum. Reprod. 14: 1328-1331.
6. Cermik, D., et al. 2001. HoxA10 expression is repressed by progesterone in the myometrium: differential tissue-specific regulation of HOX gene expression in the reproductive tract. J. Clin. Endocrinol. Metab. 86: 3387-3392.

CHROMOSOMAL LOCATION

Genetic locus: Hoxa10 (mouse) mapping to 6 B3.

PRODUCT

HoxA10 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 HoxA10 shRNA Plasmid (m): sc-38685-SH and HoxA10 shRNA (m) Lentiviral Particles: sc-38685-V as alternate gene silencing products.

For independent verification of HoxA10 (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-38685A, sc-38685B and sc-38685C.

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

HoxA10 siRNA (m) is recommended for the inhibition of HoxA10 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.

GENE EXPRESSION MONITORING

HoxA10 (E-11): sc-271428 is recommended as a control antibody for monitoring of HoxA10 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HoxA10 gene expression knockdown using RT-PCR Primer: HoxA10 (m)-PR: sc-38685-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chen, Y., et al. 2012. miRNA-135a promotes breast cancer cell migration and invasion by targeting HoxA10. BMC Cancer 12: 111.

RESEARCH USE

For research use only, not for use in diagnostic procedures.