SANTA CRUZ BIOTECHNOLOGY, INC.

HoxA11 siRNA (m): sc-60803

BACKGROUND

HOX genes play a fundamental role in the development of the vertebrate central nervous system, heart, axial skeleton, limbs, gut, urogenital tract and external genitalia. These genes are important for morphogenesis in multi-cellular organisms, as they encode a highly conserved family of transcription factors and specify the embryonic body pattern by providing cells with specific positional identities on the anterior-posterior axis. The homeobox gene HOXA11, also designated homeobox 1l (HOX1l), belongs to the AbdB homeobox family. HoxA11 is necessary for fertility in females as it is a regulator of the cyclic development of the adult endometrium and embryonic uterine development. The expression of HoxA11 increases drastically during the mid-luteal stage of the menstrual cycle, which is necessary for implantation of the blastocyst.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 142958. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Wong, K.H., et al. 2003. HoxA11 regulates stromal cell death and proliferation during neonatal uterine development. Mol. Endocrinol. 18: 184-193.
3. Wang, L.F., et al. 2004. Expression of HOXA11 gene in human endometrium. Am. J. Obstet. Gynecol. 191: 767-772.
4. Lynch, V.J., et al. 2004. Adaptive evolution of HoxA11 and HoxA13 at the origin of the uterus in mammals. Proc. Biol. Sci. 271: 2201-2207.
5. Speleman, F., et al. 2005. A new recurrent inversion, inv(7)(p15q34), leads to transcriptional activation of HoxA10 and HoxA11 in a subset of T cell acute lymphoblastic leukemias. Leukemia 19: 358-366.
6. Eun Kwon, H., et al. 2005. The role of HOX genes in human implantation. Ann. N.Y. Acad. Sci. 1034: 1-18.
7. Cheng, W., et al. 2005. Lineage infidelity of epithelial ovarian cancers is controlled by HOX genes that specify regional identity in the reproductive tract. Nat. Med. 11: 531-537.

CHROMOSOMAL LOCATION

Genetic locus: Hoxa11 (mouse) mapping to 6 B3.

PRODUCT

HoxA11 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 HoxA11 shRNA Plasmid (m): sc-60803-SH and HoxA11 shRNA (m) Lentiviral Particles: sc-60803-V as alternate gene silencing products.

For independent verification of HoxA11 (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-60803A, sc-60803B and sc-60803C.

RESEARCH USE

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

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

HoxA11 siRNA (m) is recommended for the inhibition of HoxA11 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

HoxA11 (B-11): sc-393440 is recommended as a control antibody for monitoring of HoxA11 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 HoxA11 gene expression knockdown using RT-PCR Primer: HoxA11 (m)-PR: sc-60803-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.