SANTA CRUZ BIOTECHNOLOGY, INC.

HoxC11 siRNA (m): sc-75284

BACKGROUND

Homeobox (HOX) genes, which share a highly conserved 183-bp sequence, encode proteins capable of binding to specific DNA sequences and functioning as transcription factors. During embryogenesis, HOX genes play a critical role in the spatial and temporal differentiation of cells. HoxC11 (homeobox C11), also known as HOX3H, is a transcription factor belonging to the Abd-B homeobox family. The Abd-B family of Hox proteins are related to the *Drosophila* abdominal-B gene and differ from other Hox proteins because they do not contain the conserved pentapeptide motif. HoxC11 is highly expressed in fetal tissues, particularly fetal intestine, suggesting that it may be involved in early intestinal development. HoxC11 localizes to the nucleus and contains one homeobox DNA-binding domain. It binds to the promoter element of lactase-phlorizin hydrolase (LCT), stimulating LCT transcription. HoxC11 is also believed to activate the transcription of S-100 β chain.

REFERENCES

1. Scott, M.P. 1992. Vertebrate homeobox gene nomenclature. Cell 71: 551-553.
2. Mitchelmore, C., et al. 1998. The HOXC homeodomain protein interacts with the lactase-phlorizin hydrolase promoter and stimulates HNF1α-dependent transcription. J. Biol. Chem. 273: 13297-13306.
3. Sur, I.P., et al. 2000. Repression of transcription by HoxC.upon phorbol ester stimulation. Mol. Cell Biol. Res. Commun. 3: 367-373.
4. Wellik, D.M., et al. 2002. Hox.paralogous genes are essential for metanephric kidney induction. Genes Dev. 16: 1423-1432.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605559. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Gu, B.W., et al. 2003. Major form of NUP98/HOXC fusion in adult AML with t(11;12)(p15;q13) translocation exhibits aberrant *trans*-regulatory activity. Leukemia 17: 1858-1864.
7. Akbas, G.E., et al. 2003. HOXC and HOXD gene expression in human endometrium: lack of redundancy with HOXA paralogs. Biol. Reprod. 70: 39-45.

CHROMOSOMAL LOCATION

Genetic locus: Hoxc11 (mouse) mapping to 15 F3.

PRODUCT

HoxC11 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 HoxC11 shRNA Plasmid (m): sc-75284-SH and HoxC11 shRNA (m) Lentiviral Particles: sc-75284-V as alternate gene silencing products.

For independent verification of HoxC11 (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-75284A, sc-75284B and sc-75284C.

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

HoxC11 siRNA (m) is recommended for the inhibition of HoxC11 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

HoxC11 (HOX5J232): sc-81293 is recommended as a control antibody for monitoring of HoxC11 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HoxC11 gene expression knockdown using RT-PCR Primer: HoxC11 (m)-PR: sc-75284-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.