SANTA CRUZ BIOTECHNOLOGY, INC.

HoxC4 siRNA (h): sc-60804

BACKGROUND

Homeobox (HOX) genes, which share a highly conserved 183-bp sequence, encode proteins capable of binding to specific DNA sequences and funtioning as transcription factors. During embryogenesis, HOX genes play a critical role in the spatial and temporal differentiation of cells. HoxC4, a sequence-specific transcription factor, belongs to the Antp HOX family and localizes to the nucleus. It functions as a part of a developmental regulatory system, providing cells with specific positional identities on the anterior-posterior axis. HoxC4 expression levels increase with differentiation of lymphoid cells, suggesting its role in the molecular regulation of hematopoiesis. HoxC4 is also expressed in differentiated keratinocytes.

REFERENCES

1. Rieger, E., et al. 1994. Expression of the homeobox gene HoxC4 in keratinocytes of normal skin and epithelial skin tumors is correlated with differentiation. J. Invest. Dermatol. 103: 341-346.
2. Meazza, R., et al. 1995. Expression of HoxC4 homeoprotein in the nucleus of activated human lymphocytes. Blood 85: 2084-2090.
3. Bijl, J., et al. 1996. Expression of HoxC4, HoxC5, and HoxC6 in human lymphoid and benign and malignant lymphoid tissue. Blood 87: 1737-1745.
4. Bijl, J.J., et al. 1997. HoxC4, HoxC5, and HoxC6 expression in primary cutaneous lymphoid lesions. High expression of HoxC5 in anaplastic large-cell lymphomas. Am. J. Pathol. 151: 1067-1074.
5. Bijl, J.J., et al. 1997. HoxC4, HoxC5, and HoxC6 expression in non-Hodgkin's lymphoma: preferential expression of the HOXC5 gene in primary cutaneous anaplastic T cell and oro-gastrointestinal tract mucosa-associated B cell lymphomas. Blood 90: 4116-4125.
6. Bijl, J.J., et al. 1998. Differentiation and cell-type-restricted expression of HoxC4, HoxC5 and HoxC6 in myeloid leukemias and normal myeloid cells. Leukemia 12: 1724-1732.
7. Daga, A., et al. 2000. The retroviral transduction of HoxC4 into human $CD34^+$ cells induces an *in vitro* expansion of clonogenic and early progenitors. Exp. Hematol. 28: 569-574.

CHROMOSOMAL LOCATION

Genetic locus: HOXC4 (human) mapping to 12q13.13.

PRODUCT

HoxC4 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 HoxC4 shRNA Plasmid (h): sc-60804-SH and HoxC4 shRNA (h) Lentiviral Particles: sc-60804-V as alternate gene silencing products.

For independent verification of HoxC4 (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-60804A, sc-60804B and sc-60804C.

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

HoxC4 siRNA (h) is recommended for the inhibition of HoxC4 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.

GENE EXPRESSION MONITORING

HoxC4 (G-12): sc-398460 is recommended as a control antibody for monitoring of HoxC4 gene expression knockdown by Western Blotting (starting tion 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 HoxC4 gene expression knockdown using RT-PCR Primer: HoxC4 (h)-PR: sc-60804-PR (20 µl, 461 bp). 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.