SANTA CRUZ BIOTECHNOLOGY, INC.

# HoxC13 siRNA (h): sc-75285

## BACKGROUND

The Hox proteins are a family of transcription factors that play a role in development and cellular differentiation by regulating downstream target genes. Specifically, the Hox proteins direct DNA-protein and protein-protein interactions that assist in determining the morphologic features associated with the anterior-posterior body axis. Hox proteins are involved in controlling axial patterning, leukemias and hereditary malformations. HoxC13 (homeobox C13), also known as HOX3 or HOX3G, is a 330 amino acid protein that contains one homeobox DNA-binding domain and is a member of the Abd-B homeobox family. Localized to the nucleus, HoxC13 functions as a sequence-specific transcription factor that, in conjunction with a variety of other proteins, provides cells with positional identities on their anterior-posterior axis. Via its ability to modify features of the anterior-posterior body axis, HoxC13 is thought to play a role in the development of nails, hair and filiform papilla.

## REFERENCES


1. Acampora, D., et al. 1989. The human HOX gene family. Nucleic Acids Res. 17: 10385-10402.
2. Apiou, F., et al. 1996. Fine mapping of human HOX gene clusters. Cytogenet. Cell Genet. 73: 114-115.
3. Godwin, A.R. and Capecchi, M.R. 1998. HoxC13 mutant mice lack external hair. Genes Dev. 12: 11-20.
4. Godwin, A.R. and Capecchi, M.R. 1999. Hair defects in HoxC13 mutant mice. J. Investig. Dermatol. Symp. Proc. 4: 244-247.
5. Kulessa, H., et al. 2000. Inhibition of BMP signaling affects growth and differentiation in the anagen hair follicle. EMBO J. 19: 6664-6674.
6. Kosaki, K., et al. 2002. Complete mutation analysis panel of the 39 human HOX genes. Teratology 65: 50-62.
7. Online Mendelian Inheritance in Man, OMIM™. 2002 Johns Hopkins University, Baltimore, MD. MIM Number: 142976. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/


## CHROMOSOMAL LOCATION

Genetic locus: HOXC13 (human) mapping to 12q13.13.

## PRODUCT

HoxC13 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 HoxC13 shRNA Plasmid (h): sc-75285-SH and HoxC13 shRNA (h) Lentiviral Particles: sc-75285-V as alternate gene silencing products.

For independent verification of HoxC13 (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-75285A, sc-75285B and sc-75285C.

## PROTOCOLS

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

HoxC13 siRNA (h) is recommended for the inhibition of HoxC13 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

HoxC13 (F-5): sc-514377 is recommended as a control antibody for monitoring of HoxC13 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 HoxC13 gene expression knockdown using RT-PCR Primer: HoxC13 (h)-PR: sc-75285-PR (20 µl, 553 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.