

# HoxC6 siRNA (h): sc-45673

## BACKGROUND

The Hox proteins 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. The mammalian Hox gene complex consists of 39 genes that are located on four linkage groups, which are dispersed over four chromosomes. Hox genes that occupy the same relative position along the 5' to 3' coordinate (trans-paralogous genes) are more similar in sequence and expression pattern than adjacent Hox genes on the same chromosome. HoxC6 sequence-specific transcription factor is part of a developmental regulatory system that provides cells with specific positional identities on the anterior-posterior axis. HoxC6 may be a novel potential therapeutic target for prostate cancer.

## REFERENCES

1. Juan, A.H., et al. 2003. Enhancer timing of Hox gene expression: deletion of the endogenous HoxC8 early enhancer. *Development* 130: 4823-4834.
2. Miller, G.J., et al. 2003. Aberrant HoxC expression accompanies the malignant phenotype in human prostate. *Cancer Res.* 63: 5879-5888.
3. Chen, K.N., et al. 2005. Expression of 11 Hox genes is deregulated in esophageal squamous cell carcinoma. *Clin. Cancer Res.* 11: 1044-1049.
4. Gong, L.G., et al. 2005. Analysis of single nucleotide polymorphisms and haplotypes in HoxC gene cluster within susceptible region 12q13 of simple congenital heart disease. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi* 22: 497-501.
5. Ramachandran, S., et al. 2005. Loss of HoxC6 expression induces apoptosis in prostate cancer cells. *Oncogene* 24: 188-198.

## CHROMOSOMAL LOCATION

Genetic locus: HOXC6 (human) mapping to 12q13.13.

## PRODUCT

HoxC6 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HoxC6 shRNA Plasmid (h): sc-45673-SH and HoxC6 shRNA (h) Lentiviral Particles: sc-45673-V as alternate gene silencing products.

For independent verification of HoxC6 (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-45673A, sc-45673B and sc-45673C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

HoxC6 siRNA (h) is recommended for the inhibition of HoxC6 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  $\mu$ M in 66  $\mu$ l. 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

HoxC6 (B-7): sc-376330 is recommended as a control antibody for monitoring of HoxC6 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 HoxC6 gene expression knockdown using RT-PCR Primer: HoxC6 (h)-PR: sc-45673-PR (20  $\mu$ l, 442 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Klein, D., et al. 2013. Hox genes are involved in vascular wall-resident multipotent stem cell differentiation into smooth muscle cells. *Sci. Rep.* 3: 2178.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.