SANTA CRUZ BIOTECHNOLOGY, INC.

# Hox11 siRNA (h): sc-38700

## BACKGROUND

The Hox proteins play a role in patterns of embryonic development and cellular differentiation by regulating downstream target genes. The Hox11 gene, termed an orphan homeobox gene, as it is located outside of the four mammalian Hox clusters, is a DNA-binding nuclear transcription factor. The human Hox11 gene maps to chromosome 10q24.31 and has been implicated in the chromosomal translocation t(7;10)(q24;q11) that occurs in T cell acute lymphoblastic leukemia (T-ALL). The t(7:10) translocation occurs between the Hox11 gene and the T-cell receptor (TCR) δ chain gene, and is a result of aberrant physiological recombinational events at the early stages of T-cell development. The Hox11 gene is normally expressed in the splanchnic anlage arising from the splanchnic mesoderm. Homozygous Hox11-deficient mice have no spleen, while all other splanchnic derivatives develop normally. Spleen development starts and proceeds normally in Hox11-deficient mice to a specific stage of embryogenesis, when the spleen anlage becomes fully absorbed.

## REFERENCES


1. Dube, I.D., et al. 1991. A novel human homeobox gene lies at the chromosome 10 breakpoint in lymphoid neoplasias with chromosomal translocation t(10;14). Blood 78: 2996-3003.
2. Hatano, M., et al. 1991. Deregulation of a homeobox gene, Hox11, by the t(10;14) in T cell leukemia. Science 253: 79-82.
3. Dear, T.N., et al. 1993. The Hox11 gene encodes a DNA-binding nuclear transcription factor belonging to a distinct family of homeobox genes. Proc. Natl. Acad. Sci. USA 90: 4431-4435.
4. Roberts, C.W., et al. 1994. Hox11 controls the genesis of the spleen. Nature 368: 747-749.
5. Lichty, B.D., et al. 1995. Dysregulation of Hox11 by chromosome translocations in T-cell acute lymphoblastic leukemia: a paradigm for homeobox gene involvement in human cancer. Leuk. Lymphoma 16: 209-215.
6. Vigano, M.A., et al. 1998. Definition of the transcriptional activation domains of three human HOX proteins depends on the DNA-binding context. Mol. Cell. Biol. 18: 6201-6212.


## CHROMOSOMAL LOCATION

Genetic locus: TLX1 (human) mapping to 10q24.31.

## PRODUCT

Hox11 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 Hox11 shRNA Plasmid (h): sc-38700-SH and Hox11 shRNA (h) Lentiviral Particles: sc-38700-V as alternate gene silencing products.

For independent verification of Hox11 (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-38700A, sc-38700B and sc-38700C.

## 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

Hox11 siRNA (h) is recommended for the inhibition of Hox11 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

Hox11 (1D7): sc-12760 is recommended as a control antibody for monitoring of Hox11 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 Hox11 gene expression knockdown using RT-PCR Primer: Hox11 (h)-PR: sc-38700-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.