SANTA CRUZ BIOTECHNOLOGY, INC.

# Hop siRNA (h): sc-38671

## BACKGROUND

Hop encodes a homeodomain-containing protein derived from several transcript splice variants. Nkx2.5-mediated Hop gene expression initiates early during cardiogenesis and continues in cardiomyocytes throughout embryonic and postnatal development. Hop associates with and inhibits *trans*-acting serum response factor (SRF)-dependent transcription, which regulates the opposing processes of proliferation and myogenesis. Hop modulation of SRF activity ensures a balance between cardiomyocyte proliferation and differentiation during cardiac morphogenesis.

## REFERENCES


1. Chen, F., et al. 2002. Hop is an unusual homeobox gene that modulates cardiac development. Cell 110: 713-723.
2. Shin, C.H., et al. 2002. Modulation of cardiac growth and development by Hop, an unusual homeodomain protein. Cell 110: 725-735.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607275. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Torrado, M., et al. 2003. Myocardin mRNA is augmented in the failing myocardium: expression profiling in the porcine model and human dilated cardiomyopathy. J. Mol. Med. 81: 566-577.
5. Hamamori, Y., et al. 2003. HATs off to Hop: recruitment of a class I histone deacetylase incriminates a novel transcriptional pathway that opposes cardiac hypertrophy. J. Clin. Invest. 112: 824-826.
6. Kook, H., et al. 2003. Cardiac hypertrophy and histone deacetylase-dependent transcriptional repression mediated by the atypical homeodomain protein Hop. J. Clin. Invest. 112: 863-871.
7. Kook, H., et al. 2003. Hopping to the beat. Hop regulation of cardiac gene expression. Trends Cardiovasc. Med. 13: 261-264.
8. Lemaire, F., et al. 2004. Loss of Hop tumour suppressor expression in head and neck squamous cell carcinoma. Br. J. Cancer 91: 258-261.


## CHROMOSOMAL LOCATION

Genetic locus: HOPX (human) mapping to 4q12.

## PRODUCT

Hop 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 Hop shRNA Plasmid (h): sc-38671-SH and Hop shRNA (h) Lentiviral Particles: sc-38671-V as alternate gene silencing products.

For independent verification of Hop (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-38671A, sc-38671B and sc-38671C.

## RESEARCH USE

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

## 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

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

Hop (E-1): sc-398703 is recommended as a control antibody for monitoring of Hop 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 Hop gene expression knockdown using RT-PCR Primer: Hop (h)-PR: sc-38671-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

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