

Hop siRNA (m): sc-38672

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. Hopping to the beat. Hop regulation of cardiac gene expression. *Trends Cardiovasc. Med.* 13: 261-264.

CHROMOSOMAL LOCATION

Genetic locus: Hopx (mouse) mapping to 5 C3.3.

PRODUCT

Hop siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Hop shRNA Plasmid (m): sc-38672-SH and Hop shRNA (m) Lentiviral Particles: sc-38672-V as alternate gene silencing products.

For independent verification of Hop (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-38672A, sc-38672B and sc-38672C.

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

APPLICATIONS

Hop siRNA (m) is recommended for the inhibition of Hop expression in mouse 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 μ M in 66 μ 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

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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 (m)-PR: sc-38672-PR (20 μ l, 544 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ota, C., et al. 2018. Dynamic expression of HOPX in alveolar epithelial cells reflects injury and repair during the progression of pulmonary fibrosis. *Sci. Rep.* 8: 12983.

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.