SANTA CRUZ BIOTECHNOLOGY, INC.

# HMX1 siRNA (m): sc-75270

## BACKGROUND

The homeobox DNA-binding domain is a 60 amino acid motif that is conserved among many species and functions to bind DNA via a helix-turn-helix structure, thereby playing a role in transcriptional regulation and the control of gene expression. HMX1 (H6 family homeobox 1), also known as H6 or NKX5-3, is a 373 amino acid protein that localizes to the nucleus and contains one homeobox DNA-binding domain. Existing as a member of the HMX homeobox family, HMX1 functions as a DNA-binding protein that binds to the core 5'-CAAG-3' DNA sequence and is thought to function as a transcriptional repressor, possibly playing a role in the development of facial structures, including the eye and ear. Defects in the gene encoding HMX1 are the cause of oculoauricular syndrome, a condition characterized by ocular coloboma, retinal pigment epithelium abnormalities, rod-cone dystrophy and anomalies of the external ear.

## REFERENCES


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3. Wang, W., Yoshiura, K., Murray, J. and Lufkin, T. 1997. Assignment of the murine Hmx1 homeobox gene to the proximal region of mouse chromosome 5. Mamm. Genome 8: 869-870.
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## CHROMOSOMAL LOCATION

Genetic locus: Hmx1 (mouse) mapping to 5 B3.

## 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.

## PRODUCT

HMX1 siRNA (m) is a pool of 2 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 HMX1 shRNA Plasmid (m): sc-75270-SH and HMX1 shRNA (m) Lentiviral Particles: sc-75270-V as alternate gene silencing products.

For independent verification of HMX1 (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-75270A and sc-75270B.

## 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

HMX1 siRNA (m) is recommended for the inhibition of HMX1 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 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HMX1 gene expression knockdown using RT-PCR Primer: HMX1 (m)-PR: sc-75270-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.