



HOMEZ siRNA (h): sc-92228

BACKGROUND

Homeodomain-containing proteins function as transcription factors that typically switch on cascades of other genes. Usually homeodomain proteins act in the promoter region of their target genes as complexes with other transcription factors, leading to much higher target specificity than a single homeodomain protein. HOMEZ (homeobox and leucine zipper protein) is a 525 amino acid nuclear protein that contains 3 atypical homeodomains, 2 leucine zipper-like motifs, proline and serine-rich motifs and an acidic domain. Within homeodomain 2, it contains a putative nuclear localization signal. HOMEZ shares significant sequence similarity with mouse ZHX1 and sequences that are homologous to HOMEZ are restricted to vertebrates. Likely functioning as a transcription regulator, HOMEZ is ubiquitously expressed with highest levels found in ovary, testis, kidney, fetal lung and kidney.

REFERENCES

- McGinnis, W., et al. 1984. A conserved DNA sequence in homoeotic genes of the *Drosophila* Antennapedia and bithorax complexes. *Nature* 308: 428-433.
- Scott, M.P., et al. 1984. Structural relationships among genes that control development: sequence homology between the Antennapedia, Ultrabithorax, and fushi tarazu loci of *Drosophila*. *Proc. Natl. Acad. Sci. USA* 81: 4115-4119.
- Vasák, M. 1991. Criteria of purity for metallothioneins. *Meth. Enzymol.* 205: 44-47.
- Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 65-73.
- Bayarsaihan, D., et al. 2003. Homez, a homeobox leucine zipper gene specific to the vertebrate lineage. *Proc. Natl. Acad. Sci. USA* 100: 10358-10363.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608119. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Merabet, S., et al. 2009. Classification of sequence signatures: a guide to Hox protein function. *Bioessays* 31: 500-511.
- Bird, L.E., et al. 2010. Novel structural features in two ZHX homeodomains derived from a systematic study of single and multiple domains. *BMC Struct. Biol.* 10: 13.

CHROMOSOMAL LOCATION

Genetic locus: HOMEZ (human) mapping to 14q11.2.

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

HOMEZ 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HOMEZ shRNA Plasmid (h): sc-92228-SH and HOMEZ shRNA (h) Lentiviral Particles: sc-92228-V as alternate gene silencing products.

For independent verification of HOMEZ (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-92228A, sc-92228B and sc-92228C.

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

HOMEZ siRNA (h) is recommended for the inhibition of HOMEZ 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HOMEZ gene expression knockdown using RT-PCR Primer: HOMEZ (h)-PR: sc-92228-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.