SANTA CRUZ BIOTECHNOLOGY, INC.

HoxA6 siRNA (h): sc-89444

BACKGROUND

The Hox homeobox genes encode proteins that are transcriptional regulators with an established role in embryonic development. HoxA6 (homeobox A6), also known as HOX1B, is a 233 amino acid protein that localizes to the nucleus. Expressed during embryonic development, HoxA6 functions as a sequence-specific DNA-binding transcription factor that is part of a regulatory mechanism that provides cells with positional identities during development. Via its ability to bind DNA, HoxA6 plays an important role in the regulation of gene expression, as well as morphogenesis and differentiation. The gene encoding HoxA6 maps to human chromosome 7p15.2, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

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2. McAlpine, P.J. and Shows, T.B. 1990. Nomenclature for human homeobox genes. Genomics 7: 460.
3. Scott, M.P. 1992. Vertebrate homeobox gene nomenclature. Cell 71: 551-553.
4. Apiou, F., et al. 1996. Fine mapping of human HOX gene clusters. Cytogenet. Cell Genet. 73: 114-115.
5. Walters, J.R., et al. 1997. Differences in expression of homeobox transcription factors in proximal and distal human small intestine. Gastroenterology 113: 472-477.
6. Snell, E.A., et al. 1999. Genomic organization of the Hoxa4-Hoxa10 region from *Morone saxatilis:* implications for Hox gene evolution among vertebrates. J. Exp. Zool. 285: 41-49.
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CHROMOSOMAL LOCATION

Genetic locus: HOXA6 (human) mapping to 7p15.2.

PRODUCT

HoxA6 siRNA (h) 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 HoxA6 shRNA Plasmid (h): sc-89444-SH and HoxA6 shRNA (h) Lentiviral Particles: sc-89444-V as alternate gene silencing products.

For independent verification of HoxA6 (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-89444A and sc-89444B.

PROTOCOLS

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

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

HoxA6 siRNA (h) is recommended for the inhibition of HoxA6 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HoxA6 gene expression knockdown using RT-PCR Primer: HoxA6 (h)-PR: sc-89444-PR (20 µl, 456 bp). 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.