SANTA CRUZ BIOTECHNOLOGY, INC.

HoxD12 siRNA (h): sc-75293

BACKGROUND

The Hox proteins are a family of transcription factors that play a role in development and cellular differentiation by regulating downstream target genes. Specifically, the Hox proteins direct DNA-protein and protein-protein interactions that assist in determining the morphologic features associated with the anterior-posterior body axis. Hox proteins are involved in controlling axial patterning, leukemias and hereditary malformations. HoxD12 (homeobox D12), also known as HOX4H, is a 275 amino acid protein that localizes to the nucleus and contains one homeobox DNA-binding domain. One of several members of the homeobox superfamily, HoxD12 functions as a sequence-specific transcription factor that is important for the correct positioning of developing limb buds on the anterior-posterior axis.

REFERENCES

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2. Scott, M.P. 1992. Vertebrate homeobox gene nomenclature. Cell 71: 551-553.
3. Johnson, R.L. and Tabin, C.J. 1997. Molecular models for vertebrate limb development. Cell 90: 979-990.
4. Zákány, J. and Duboule, D. 1999. Hox genes and the making of sphincters. Nature 401: 761-762.
5. Goodman, F.R. 2002. Limb malformations and the human HOX genes. Am. J. Med. Genet. 112: 256-265.
6. Kmita, M., et al. 2002. Serial deletions and duplications suggest a mechanism for the collinearity of HoxD genes in limbs. Nature 420: 145-150.
7. Zákány, J., et al. 2004. A dual role for Hox genes in limb anterior-posterior asymmetry. Science 304: 1669-1672.
8. Tarchini, B., et al. 2006. Regulatory constraints in the evolution of the tetrapod limb anterior-posterior polarity. Nature 443: 985-988.

CHROMOSOMAL LOCATION

Genetic locus: HOXD12 (human) mapping to 2q31.1.

PRODUCT

HoxD12 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 HoxD12 shRNA Plasmid (h): sc-75293-SH and HoxD12 shRNA (h) Lentiviral Particles: sc-75293-V as alternate gene silencing products.

For independent verification of HoxD12 (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-75293A and sc-75293B.

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

HoxD12 siRNA (h) is recommended for the inhibition of HoxD12 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 HoxD12 gene expression knockdown using RT-PCR Primer: HoxD12 (h)-PR: sc-75293-PR (20 µl, 441 bp). 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.