SANTA CRUZ BIOTECHNOLOGY, INC.

HoxD13 siRNA (m): sc-45657

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Hox proteins 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. HoxD13 is a sequence-specific transcription factor that provides cells with specific positional identities on the anterior-posterior axis of developing mammals. Defects in HoxD13 are the cause of synpolydactyly (SPD). SPD is a limb malformation that shows a characteristic manifestation in both hands and feet. This condition is inherited as an autosomal dominant trait with reduced penetrance. Defects in HoxD13 are also the cause of brachydactyly type D and type E.

REFERENCES

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2. Lin, Y.W., et al. 2005. NUP98-HoxD13 transgenic mice develop a highly penetrant, severe myelodysplastic syndrome that progresses to acute leukemia. Blood 106: 287-295.
3. Pineault, N., et al. 2005. Transplantable cell lines generated with NUP98-Hox fusion genes undergo leukemic progression by Meis1 independent of its binding to DNA. Leukemia 19: 636-643.
4. Zhao, X.L., et al. 2005. HoxD13 polyalanine tract expansion in synpolydactyly: mutation detection and prenatal diagnosis in a large Chinese family. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 22: 5-9.
5. Williams, T.M., et al. 2005. Range of Hox/TALE superclass associations and protein domain requirements for HoxA13:Meis interaction. Dev. Biol. 277: 457-471.
6. Williams, T.M., et al. 2005. Candidate downstream regulated genes of Hox group 13 transcription factors with and without monomeric DNA binding capability. Dev. Biol. 279:462-480.

CHROMOSOMAL LOCATION

Genetic locus: Hoxd13 (mouse) mapping to 2 C3.

PRODUCT

HoxD13 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 HoxD13 shRNA Plasmid (m): sc-45657-SH and HoxD13 shRNA (m) Lentiviral Particles: sc-45657-V as alternate gene silencing products.

For independent verification of HoxD13 (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-45657A and sc-45657B.

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

HoxD13 siRNA (m) is recommended for the inhibition of HoxD13 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 HoxD13 gene expression knockdown using RT-PCR Primer: HoxD13 (m)-PR: sc-45657-PR (20 µl). 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.

PROTOCOLS

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