SANTA CRUZ BIOTECHNOLOGY, INC.

HoxC8 siRNA (m): sc-60807

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. Homeobox region 3 contains at least seven homeoboxes in 160 kb of DNA, including Homoeobox 8 (HoxC8) and Homeobox 3A (Hox3A). Overexpression of the HOXC8 transgene causes cartilage defects, the severity of which depends upon transgene dosage. This abnormal cartilage is characterized by an accumulation of proliferating chondrocytes and reduced maturation. Since HoxC8 is normally expressed in chondrocytes, it may be responsible for skeletal development other than pattern formation in a tissue-specific manner, hypothetically by controlling the progression of cells along the chondrocyte differentiation pathway.

REFERENCES

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2. Shashikant, C., et al. 2004. HoxC8 early enhancer of the Indonesian coelacanth, Latimeria menadoensis. J. Exp. Zool. B, Mol. Dev. Evol. 302: 557-563.
3. Kwon, Y., et al. 2005. Dynamic expression pattern of HoxC8 during mouse early embryogenesis. Anat. Rec. A, Discov. Mol. Cell. Evol. Biol. 283: 187-192.
4. Lei, H., et al. 2005. The identification of HoxC8 target genes. Proc. Natl. Acad. Sci. USA 102: 2420-2424.
5. Vermot, J., et al. 2005. Retinaldehyde dehydrogenase 2 and HoxC8 are required in the murine brachial spinal cord for the specification of Lim1$^+$ motoneurons and the correct distribution of Islet1$^+$ motoneurons. Development 132: 1611-1621.
6. Juan, A.H., et al. 2006. Multiple roles of HoxC8 in skeletal development. Ann. N.Y. Acad. Sci. 1068: 87-94.
7. Kikugawa, T., et al. 2006. PLZF regulates Pbx1 transcription and Pbx1-HoxC8 complex leads to androgen-independent prostate cancer proliferation. Prostate 66: 1092-1099.

CHROMOSOMAL LOCATION

Genetic locus: Hoxc8 (mouse) mapping to 15 F3.

PRODUCT

HoxC8 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HoxC8 shRNA Plasmid (m): sc-60807-SH and HoxC8 shRNA (m) Lentiviral Particles: sc-60807-V as alternate gene silencing products.

For independent verification of HoxC8 (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-60807A, sc-60807B and sc-60807C.

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

HoxC8 siRNA (m) is recommended for the inhibition of HoxC8 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.

GENE EXPRESSION MONITORING

HoxC8 (1H2): sc-517007 is recommended as a control antibody for monitoring of HoxC8 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HoxC8 gene expression knockdown using RT-PCR Primer: HoxC8 (m)-PR: sc-60807-PR (20 µl, 407 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.

PROTOCOLS

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