

Evx-1 siRNA (m): sc-62289

BACKGROUND

Homeodomain proteins are transcription factors that control gene expression in order to regulate development in all eukaryotes. Hox genes are required for the establishment of regional identities along body axes. The vertebrate Hox genes map closely to even-skipped homolog protein 1 (Evx-1) and Evx-2, homeodomain proteins that are the homologs of the *Drosophila melanogaster* even skipped gene. Evx-1 maps to mouse chromosome 6, near the Hox-1 gene cluster. The close linkage of the Evx and Hox genes is distinct because Evx expression is partly controlled by mechanisms acting on the Hox genes. Evx-1 is expressed during embryonic development in the hindbrain, genital bud, developing neural tube and distal limb. Its expression is induced by the growth factor FGF-4. Evx-1 and Evx-2 belong to a homeodomain protein family that also controls body plan formation and plays a crucial role in gastrulation, neurogenesis, appendage development and tailbud formation.

REFERENCES

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2. Niswander, L. and Martin, G.R. 1994. FGF-4 regulates expression of Evx-1 in the developing mouse limb. *Development* 119: 287-294.
3. Niswander, L., et al. 1995. Function of FGF-4 in limb development. *Mol. Reprod. Dev.* 39: 83-88.
4. Herault, Y., et al. 1996. Function of the Evx-2 gene in the morphogenesis of vertebrate limbs. *EMBO J.* 15: 6727-6738.
5. Ferrier, D.E., et al. 2001. Amphioxus Evx genes: implications for the evolution of the midbrain-hindbrain boundary and the chordate tailbud. *Dev. Biol.* 237: 270-281.
6. Minguillón, C. and Garcia-Fernández, J. 2003. Genesis and evolution of the Evx and Mox genes and the extended Hox and ParaHox gene clusters. *Genome Biol.* 4: R12.

CHROMOSOMAL LOCATION

Genetic locus: Evx1 (mouse) mapping to 6 B3.

PRODUCT

Evx-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Evx-1 shRNA Plasmid (m): sc-62289-SH and Evx-1 shRNA (m) Lentiviral Particles: sc-62289-V as alternate gene silencing products.

For independent verification of Evx-1 (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-62289A, sc-62289B and sc-62289C.

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 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

Evx-1 siRNA (m) is recommended for the inhibition of Evx-1 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 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.

GENE EXPRESSION MONITORING

Evx-1 (397.3): sc-81962 is recommended as a control antibody for monitoring of Evx-1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Evx-1 gene expression knockdown using RT-PCR Primer: Evx-1 (m)-PR: sc-62289-PR (20 μ l). 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.