SANTA CRUZ BIOTECHNOLOGY, INC.

MOX-1 siRNA (h): sc-43938



BACKGROUND

Closely related homeobox proteins, MOX-1 and MOX-2, belong to a family of nonclustered, diverged homeobox genes that are expressed in overlapping patterns in the paraxial mesoderm and its derivatives. MOX-1 and MOX-2 function transiently in the formation of mesodermal and mesenchymal derivatives. Specifically, MOX-1 and MOX-2 are implicated in the early steps of mesoderm formation during gastrulation and are also involved in somatic differentiation. Significantly, MOX-1 associates more strongly with Pax-1, whereas MOX-2 preferentially associates with Pax-3. Expression of MOX-1, also known as Mesenchyme homeobox 1 and MFOX1, was first detected in the newly formed mesoderm of primitive streak stage mouse embryos. MOX-1 has been shown to be critical in axial skeleton development. The human MEOX1 gene maps to chromosome 17q21.31 and encodes the MOX-1 protein.

REFERENCES

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- Candia, A.F., et al. 1996. Differential localization of MOX-1 and MOX-2 proteins indicates distinct roles during development. Int. J. Dev. Biol. 40: 1179-1184.
- 3. Stelnicki, E.J., et al. 1997. The human homeobox genes MSX-1, MSX-2, and MOX-1 are differentially expressed in the dermis and epidermis in fetal and adult skin. Differentiation 62: 33-41.
- 4. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 600147. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- 5. Mankoo, B.S., et al. 1999. MOX-2 is a component of the genetic hierarchy controlling limb muscle development. Nature 400: 69-73.
- Stamataki, D., et al. 2001. Homeodomain proteins MOX-1 and MOX-2 associate with Pax-1 and Pax-3 transcription factors. FEBS Lett. 499: 274-278.
- 7. LocusLink Report (LocusID: 4222). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: MEOX1 (human) mapping to 17q21.31.

PRODUCT

MOX-1 siRNA (h) 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 MOX-1 shRNA Plasmid (h): sc-43938-SH and MOX-1 shRNA (h) Lentiviral Particles: sc-43938-V as alternate gene silencing products.

For independent verification of MOX-1 (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-43938A, sc-43938B and sc-43938C.

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 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

MOX-1 siRNA (h) is recommended for the inhibition of MOX-1 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 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

MOX-1 (B-5): sc-398845 is recommended as a control antibody for monitoring of MOX-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 MarkerTM 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 MOX-1 gene expression knockdown using RT-PCR Primer: MOX-1 (h)-PR: sc-43938-PR (20 μ l, 452 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.