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Hmx3 siRNA (m): sc-146056

BACKGROUND

The homeobox DNA-binding domain is a 60 amino acid motif that is conserved among many species and functions to bind DNA via a helix-turn-helix structure, thereby playing a role in transcriptional regulation and the control of gene expression. HMX3 (H6 family homeobox 3), also known as NKX-5.1, is a 357 amino acid nuclear protein that belongs to the HMX homeobox family. Containing a C-terminal homeobox DNA-binding domain, HMX3 acts as a transcription factor that participates in the designation of neuronal cell types. HMX3 is expressed in the developing ear, neural tube and dorsal root ganglia, and is required for inner ear and hypothalamus development. Deletions to the gene encoding HMX3, which maps to human chromosome 10q26.13, results in hearing and vestibular function irregularities.

REFERENCES

1. Bober, E., Baum, C., Braun, T. and Arnold, H.H. 1994. A novel NK-related mouse homeobox gene: expression in central and peripheral nervous structures during embryonic development. *Dev. Biol.* 162: 288-303.
2. Wang, W., Van De Water, T. and Lufkin, T. 1998. Inner ear and maternal reproductive defects in mice lacking the Hmx3 homeobox gene. *Development* 125: 621-634.
3. Wang, W., Lo, P., Frasch, M. and Lufkin, T. 2000. Hmx: an evolutionary conserved homeobox gene family expressed in the developing nervous system in mice and *Drosophila*. *Mech. Dev.* 99: 123-137.
4. Wang, W., Chan, E.K., Baron, S., Van de Water, T. and Lufkin, T. 2001. Hmx2 homeobox gene control of murine vestibular morphogenesis. *Development* 128: 5017-5029.
5. Shaw, P.A., Zhang, X., Russo, A.F., Amendt, B.A., Henderson, S. and Williams, V. 2003. Homeobox protein, Hmx3, in postnatally developing rat submandibular glands. *J. Histochem. Cytochem.* 51: 385-396.
6. Wang, W., Grimmer, J.F., Van De Water, T.R. and Lufkin, T. 2004. Hmx2 and Hmx3 homeobox genes direct development of the murine inner ear and hypothalamus and can be functionally replaced by *Drosophila* Hmx. *Dev. Cell* 7: 439-453.
7. Wang, W. and Lufkin, T. 2005. Hmx homeobox gene function in inner ear and nervous system cell-type specification and development. *Exp. Cell Res.* 306: 373-379.
8. Miller, N.D., Nance, M.A., Wohler, E.S., Hoover-Fong, J.E., Lisi, E., Thomas, G.H. and Pevsner, J. 2009. Molecular (SNP) analyses of overlapping hemizygous deletions of 10q25.3 to 10qter in four patients: evidence for HMX2 and HMX3 as candidate genes in hearing and vestibular function. *Am. J. Med. Genet. A* 149A: 669-680.
9. Munroe, R.J., Prabhu, V., Acland, G.M., Johnson, K.R., Harris, B.S., O'Brien, T.P., Welsh, I.C., Noden, D.M. and Schimenti, J.C. 2009. Mouse H6 Homeobox 1 (Hmx1) mutations cause cranial abnormalities and reduced body mass. *BMC Dev. Biol.* 9: 27.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Hmx3 (mouse) mapping to 7 F3.

PRODUCT

Hmx3 siRNA (m) is a target-specific 19-25 nt siRNA 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 Hmx3 shRNA Plasmid (m): sc-146056-SH and Hmx3 shRNA (m) Lentiviral Particles: sc-146056-V as alternate gene silencing 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

Hmx3 siRNA (m) is recommended for the inhibition of Hmx3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Hmx3 gene expression knockdown using RT-PCR Primer: Hmx3 (m)-PR: sc-146056-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.