SANTA CRUZ BIOTECHNOLOGY, INC.

LHX8 siRNA (m): sc-38718

BACKGROUND

The LIM domain (a zinc finger structure) is a protein-protein interaction motif found in several protein superfamilies, including homeodomain transcription factors and kinases. The LIM family of homeodomain proteins play a role in organismal differentiation and development. During murine development, the LHX8 gene is expressed in the medical ganglionic eminence and the mesenchyme surrounding the oral cavity. Specifically, the LHX8 gene is expressed in the maxillary and mandibular processes and the ventral forebrain in the developing mouse embryo. Furthermore, Lhx8 is continuously expressed in the mesenchyme of mouse palatal structures and plays an essential role in palate development. LHX8^{-} mice develop a cleft secondary palate due to a failure of the palatal shelves to connect and fuse properly. The murine LHX8 gene, which is composed of nine exons and eight introns, maps to the distal portion of chromosome 3 (band H3-4).

REFERENCES

1. Chen, B., et al. 1997. LIM homeobox genes family in nervous system. Sheng Li Ke Xue Jin Zhan 28: 24-28.
2. Kitanaka, J., et al. 1998. Structure and chromosomal localization of a murine LIM/homeobox gene, LHX8. Genomics 49: 307-309.
3. Grigoriou, M., et al. 1998. Expression and regulation of LHX6 and LHX7, a novel subfamily of LIM homeodomain encoding genes, suggests a role in mammalian head development. Development 125: 2063-2074.
4. Zhao, Y., et al. 1999. Isolated cleft palate in mice with a targeted mutation of the LIM homeobox gene LHX8. Proc. Natl. Acad. Sci. USA 96: 15002-15006.
5. Bach, I. 2000. The LIM domain: regulation by association. Mech. Dev. 91: 5-17.

CHROMOSOMAL LOCATION

Genetic locus: Lhx8 (mouse) mapping to 3 H4.

PRODUCT

LHX8 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 LHX8 shRNA Plasmid (m): sc-38718-SH and LHX8 shRNA (m) Lentiviral Particles: sc-38718-V as alternate gene silencing products.

For independent verification of LHX8 (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-38718A, sc-38718B and sc-38718C.

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.

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

LHX8 siRNA (m) is recommended for the inhibition of LHX8 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 LHX8 gene expression knockdown using RT-PCR Primer: LHX8 (m)-PR: sc-38718-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.