SANTA CRUZ BIOTECHNOLOGY, INC.

TBX6 siRNA (m): sc-38473

BACKGROUND

Members of the T-box (Tbx) gene family share a conserved domain that codes for the T-box, a sequence involved in DNA-binding and protein dimerization. The Tbx gene family is largely conserved throughout metazoan evolution, and is implicated in a variety of developmental processes ranging from the formation of germ layers to the organizational patterning of the central nervous system. In the mouse, Tbx6 is involved in both the specification and patterning of the somites along the entire length of the embryo. Specifically, Tbx6 is expressed in the primitive streak, tail bud, and presomitic mesoderm and is essential for the specification of posterior paraxial mesoderm. In the absence of Tbx6, posterior somites are replaced by ectopic neural tubes.

REFERENCES

1. Agulnik, S.I., Papaioannou, V.E. and Silver, L.M. 1998. Cloning, mapping, and expression analysis of TBX15, a new member of the T-Box gene family. Genomics 51: 68-75.
2. He, M.I., Wen, L., Campbell, C.E., Wu, J.Y. and Rao, Y. 1999. Transcription repression by Xenopus ET and its human ortholog TBX3, a gene involved in ulnar-mammary syndrome. Proc. Natl. Acad. Sci. USA 96: 10212-10217.
3. Begemann, G. and Ingham, P.W. 2000. Developmental regulation of Tbx5 in zebrafish embryogenesis. Mech. Dev. 90: 299-304.
4. Ahn, D.G., Ruvinsky, I., Oates, A.C., Silver, L.M. and Ho, R.K. 2000. Tbx20, a new vertebrate T-box gene expressed in the cranial motor neurons and developing cardiovascular structures in zebrafish. Mech. Dev. 95: 253-258.
5. Chapman, D.L., Cooper-Morgan, A., Harrelson, Z. and Papaioannou, V.E. 2003. Critical role for TBX6 in mesoderm specification in the mouse embryo. Mech. Dev. 120: 837-847.
6. White, P.H., Farkas, D.R. and Chapman, D.L. 2005. Regulation of TBX6 expression by Notch signaling. Genesis 42: 61-70.
7. White, P.H. and Chapman, D.L. 2005. Dll1 is a downstream target of TBX6 in the paraxial mesoderm. Genesis 42: 193-202.

CHROMOSOMAL LOCATION

Genetic locus: Tbx6 (mouse) mapping to 7 F3.

PRODUCT

TBX6 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 TBX6 shRNA Plasmid (m): sc-38473-SH and TBX6 shRNA (m) Lentiviral Particles: sc-38473-V as alternate gene silencing products.

For independent verification of TBX6 (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-38473A, sc-38473B and sc-38473C.

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

TBX6 siRNA (m) is recommended for the inhibition of TBX6 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 TBX6 gene expression knockdown using RT-PCR Primer: TBX6 (m)-PR: sc-38473-PR (20 µl). 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.