SANTA CRUZ BIOTECHNOLOGY, INC.

DBX2 siRNA (m): sc-142886

BACKGROUND

DBX2 (developing brain homeobox protein 2) is a 339 amino acid member of the H2.0 homeobox family. DBX2, which is localized to the nucleus, contains one homeobox DNA-binding domain, a region of 60 amino acids that binds DNA through a helix-turn-helix type of structure. DBX2, which is expressed in the forebrain, midbrain, hindbrain, and spinal cord, has been implicated in CNS development. Specifically, DBX2 has been shown to play a role in spinal cord dorsal/ventral patterning, as well as the regionalization of the CNS. DBX2 is also thought to play a role in the production of multiple spinal cord cell types.

REFERENCES

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2. Aboul-Eid, H.Z., et al. 2006. Evaluation of a nematode bio-product Dbx-20% against root-knot nematode *Meloidogyne incognita* affecting grapevine under field conditions. Commun. Agric. Appl. Biol. Sci. 71: 659-668.
3. Pachikara, A., et al. 2007. Activation of Class I transcription factors by low level Sonic hedgehog signaling is mediated by Gli2-dependent and independent mechanisms. Dev. Biol. 305: 52-62.
4. Gribble, S.L., et al. 2007. Regulation and function of Dbx genes in the zebrafish spinal cord. Dev. Dyn. 236: 3472-3483.
5. Kennea, N.L., et al. 2009. Differentiation of human fetal mesenchymal stem cells into cells with an oligodendrocyte phenotype. Cell Cycle 8: 1069-1079.
6. Wu, C., et al. 2009. ZHX2 Interacts with Ephrin-B and regulates neural progenitor maintenance in the developing cerebral cortex. J. Neurosci. 29: 7404-7412.
7. Alavian, K.N., et al. 2009. Elevated P75NTR expression causes death of engrailed-deficient midbrain dopaminergic neurons by Erk1/2 suppression. Neural Dev. 4: 11.
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CHROMOSOMAL LOCATION

Genetic locus: Dbx2 (mouse) mapping to 15 F1.

PRODUCT

DBX2 siRNA (m) is a pool of 2 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 DBX2 shRNA Plasmid (m): sc-142886-SH and DBX2 shRNA (m) Lentiviral Particles: sc-142886-V as alternate gene silencing products.

For independent verification of DBX2 (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-142886A and sc-142886B.

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

DBX2 siRNA (m) is recommended for the inhibition of DBX2 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 DBX2 gene expression knockdown using RT-PCR Primer: DBX2 (m)-PR: sc-142886-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.

PROTOCOLS

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