SANTA CRUZ BIOTECHNOLOGY, INC.

DBX1 siRNA (m): sc-142885

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DBX1 (developing brain homeobox 1) is a 343 amino acid member of the H2.0 homeobox protein family. Localized to the nucleus, DBX1 contains one homeobox DNA-binding domain. DBX1 is thought to play a role in patterning the central nervous system during embryogenesis. DBX1 is also involved in the regulation of the distinct phenotypic features that distinguish two major classes of ventral interneurons, designated V0 and V1 neurons. DBX1 regulates the neurotransmitter phenotype, transcription factor profile, intraspinal migratory path and axonal trajectory of V0 neurons, which distinguishes them from V1 neurons. The gene that encodes DBX1 maps to human chromosome 11, which makes up around 4% of human genomic DNA and is considered a gene and disease association dense chromosome.

REFERENCES

1. Grossfeld, P.D., et al. 2004. The 11q terminal deletion disorder: a prospective study of 110 cases. Am. J. Med. Genet. A 129A: 51-61.
2. Taylor, T.D., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. Nature 440: 497-500.
3. Pierani, A., et al. 2001. Control of interneuron fate in the developing spinal cord by the progenitor homeodomain protein Dbx1. Neuron 29: 367-384.
4. Lacin, H., et al. 2009. dbx mediates neuronal specification and differentiation through cross-repressive, lineage-specific interactions with eve and hb9. Development 136: 3257-3266.
5. Gray, P.A., et al. 2010. Developmental origin of preBötzinger complex respiratory neurons. J. Neurosci. 30: 14883-14895.

CHROMOSOMAL LOCATION

Genetic locus: Dbx1 (mouse) mapping to 7 B5.

PRODUCT

DBX1 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 DBX1 shRNA Plasmid (m): sc-142885-SH and DBX1 shRNA (m) Lentiviral Particles: sc-142885-V as alternate gene silencing products.

For independent verification of DBX1 (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-142885A and sc-142885B.

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

DBX1 siRNA (m) is recommended for the inhibition of DBX1 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 DBX1 gene expression knockdown using RT-PCR Primer: DBX1 (m)-PR: sc-142885-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.