SANTA CRUZ BIOTECHNOLOGY, INC.

Barx2 siRNA (m): sc-62012

BACKGROUND

Barx2 is a member of the homeobox gene family which are regulators of place-dependent morphogenesis and play important roles in controlling the expression patterns of cell adhesion molecules. The homeodomain encoded by Barx2 is 87% identical to that of Barx1, and both genes are related to genes at the Bar locus of *Drosophila melanogaster*. Barx2 may differentially control the expression of L1 and other target genes during embryonic development. The BARX genes 1 and 2 are Bar class homeobox genes expressed in craniofacial structures during development. In a series of ovarian cancer cell lines, Barx2 expression showed a significant direct correlation with cadherin-6 expression. Barx2 interacts with serum response factor (SRF) and promotes the DNA binding activity of SRF. Barx2 is expressed in several smooth muscle-containing tissues, as well as skeletal muscle, brain, tongue and esophagus. Barx2 is also highly expressed in adult salivary gland and is expressed at lower levels in other tissues, including mammary gland, kidney and placenta. The human BARX2 gene maps to chromosome 11q24.3 and encodes a 254 amino acid protein.

REFERENCES

1. Jones, F.S., et al. 1997. Barx2, a new homeobox gene of the Bar class, is expressed in neural and craniofacial structures during development. Proc. Natl. Acad. Sci. USA 94: 2632-2637.
2. Hjalt, T.A., et al. 1999. The human BARX2 gene: genomic structure, chromosomal localization, and single nucleotide polymorphisms. Genomics 62: 456-459.
3. Sander, G., et al. 2000. Expression of the homeobox gene, BARX2, in wool follicle development. J. Invest. Dermatol. 115: 753-756.
4. Krasner, A., et al. 2000. Cloning and chromosomal localization of the human BARX2 homeobox protein gene. Gene 250: 171-180.
5. Sellar, G.C., et al. 2001. BARX2 induces cadherin-6 expression and is a functional suppressor of ovarian cancer progression. Cancer Res. 61: 6977-6981.
6. Herring, B.P., et al. 2001. Identification of Barx2b, a serum response factor-associated homeodomain protein. J. Biol. Chem. 276: 14482-14489.

CHROMOSOMAL LOCATION

Genetic locus: Barx2 (mouse) mapping to 9 A4.

PRODUCT

Barx2 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 Barx2 shRNA Plasmid (m): sc-62012-SH and Barx2 shRNA (m) Lentiviral Particles: sc-62012-V as alternate gene silencing products.

For independent verification of Barx2 (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-62012A, sc-62012B and sc-62012C.

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

Barx2 siRNA (m) is recommended for the inhibition of Barx2 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.

GENE EXPRESSION MONITORING

Barx2 (8A7/1): sc-53177 is recommended as a control antibody for monitoring of Barx2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Barx2 gene expression knockdown using RT-PCR Primer: Barx2 (m)-PR: sc-62012-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.