SANTA CRUZ BIOTECHNOLOGY, INC.

FOXF2 siRNA (h): sc-105370

BACKGROUND

The FOX family of transcription factors share a common DIUA binding domain termed a winged-helix or forkhead domain. Many FOX proteins play important roles in development, metabolism, cancer and aging. Development of the vertebrate gut is controlled by paracrine crosstalk between the endodermal epithelium and the associated splanchnic mesoderm. FOXF2 (forkhead box F2), also known as FKHL or FREAC2, is expressed in lung and placenta, and has been shown to transcriptionally activate several lung-specific genes. FOXF2 interacts with transcription factors TFIIB and TBP, and may be involved in regulating transcription in embryogenesis and pattern formation in multicellular organisms. FOXF2-deficient mice develop cleft palate and an abnormal tongue, which suggests that FOXF2 may be critical for palatogenesis.

REFERENCES

1. Hellqvist, M., et al. 1996. Differential activation of lung-specific genes by two forkhead proteins, FREAC-1 and FREAC-2. J. Biol. Chem. 271: 4482-4490.
2. Blixt, A., et al. 1998. The two-exon gene of the human forkhead transcription factor FREAC-2 (FKHL6) is located at 6p25.3. Genomics 53: 387-390.
3. Hellqvist, M., et al. 1998. The human forkhead protein FREAC-2 contains two functionally redundant activation domains and interacts with TBP and TFIIB. J. Biol. Chem. 273: 23335-23343.
4. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 603250. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Aitola, M., et al. 2000. Forkhead transcription factor FOXF2 is expressed in mesodermal tissues involved in epithelio-mesenchymal interactions. Dev. Dyn. 218: 136-149.
6. Wang, T., et al. 2003. Forkhead transcription factor Foxf2 (LUN)-deficient mice exhibit abnormal development of secondary palate. Dev. Biol. 259: 83-94.
7. Katoh, M. and Katoh, M. 2004. Human FOX gene family (review). Int. J. Oncol. 25: 1495-1500.

CHROMOSOMAL LOCATION

Genetic locus: FOXF2 (human) mapping to 6p25.3.

PRODUCT

FOXF2 siRNA (h) 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 FOXF2 shRNA Plasmid (h): sc-105370-SH and FOXF2 shRNA (h) Lentiviral Particles: sc-105370-V as alternate gene silencing products.

For independent verification of FOXF2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-105370A, sc-105370B and sc-105370C.

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

FOXF2 siRNA (h) is recommended for the inhibition of FOXF2 expression in human 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

FOXF2 (L-29): sc-101043 is recommended as a control antibody for monitoring of FOXF2 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 FOXF2 gene expression knockdown using RT-PCR Primer: FOXF2 (h)-PR: sc-105370-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.