SANTA CRUZ BIOTECHNOLOGY, INC.

FOXI1 siRNA (h): sc-75052

BACKGROUND

FOXI1 (forkhead box I1), also known as HFH3 (HNF-3/forkhead homolog 3), FKHL10 or FREAC6 (forkhead related transcription factor 6), is a member of the FOX family of transcription factors. The FOX family is a large group of proteins (consisting of at least 43 members) that share a common DNA binding domain termed winged-helix or forkhead domain. FOX transcription factors play important roles in development, differentiation, aging and hormone responsiveness. Localizing to the nucleus, FOXI1 functions as a transcription factor. Mice with mutated forms of FOXI1 show defects in ear development, implying that FOXI1 plays a significant role in the developmental pathway of ears and, in particular, the cochlea and vestibulum. FOXI1 is an upstream transcription regulator of Pendrin (a protein associated with deafness), suggesting a role for FOXI1 in the pathogenesis of Pendred syndrome (PS), a condition of nonsyndromic hearing loss and enlarged vestibular aqueduct (EVA).

REFERENCES

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6. Yang, T., Vidarsson, H., Rodrigo-Blomqvist, S., Rosengren, S.S., Enerback, S. and Smith, R.J. 2007. Transcriptional control of SLC26A4 is involved in Pendred syndrome and nonsyndromic enlargement of vestibular aqueduct (DFNB4). Am. J. Hum. Genet. 80: 1055-1063.

CHROMOSOMAL LOCATION

Genetic locus: FOXI1 (human) mapping to 5q35.1.

PRODUCT

FOXI1 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 FOXI1 shRNA Plasmid (h): sc-75052-SH and FOXI1 shRNA (h) Lentiviral Particles: sc-75052-V as alternate gene silencing products.

For independent verification of FOXI1 (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-75052A, sc-75052B and sc-75052C.

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

FOXI1 siRNA (h) is recommended for the inhibition of FOXI1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FOXI1 gene expression knockdown using RT-PCR Primer: FOXI1 (h)-PR: sc-75052-PR (20 µl, 433 bp). 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.