SANTA CRUZ BIOTECHNOLOGY, INC.

FOXK2 siRNA (h): sc-94054

BACKGROUND

The forkhead-box (FOX) genes comprise a superfamily of at least 43 members that encode proteins which are involved in transcriptional regulation and may be associated with the pathogenesis of various cancers. FOXK2 (forkhead box K2), also known as ILF or ILF1, is a 660 amino acid protein that localizes to the nucleus and contains one FHA domain and one forkhead DNA-binding domain. Expressed in lymphoid and non-lymphoid cells, FOXK2 uses magnesium as a cofactor and binds to purine-rich motifs in select promoters, possibly playing a role in the regulation of viral and cellular promoter elements. FOXK2 exists as multiple alternatively spliced isoforms and is subject to DNA damage-dependent phosphorylation, probably by ATM or ATR.

REFERENCES

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3. Li, C., Lusis, A.J., Sparkes, R., Nirula, A. and Gaynor, R. 1992. Characterization and chromosomal mapping of the gene encoding the cellular DNA binding protein ILF. Genomics 13: 665-671.
4. Nirula, A., Moore, D.J. and Gaynor, R.B. 1997. Constitutive binding of the transcription factor interleukin-2 (IL-2) enhancer binding factor to the IL-2 promoter. J. Biol. Chem. 272: 7736-7745.
5. Liu, P.P., Chen, Y.C., Li, C., Hsieh, Y.H., Chen, S.W., Chen, S.H., Jeng, W.Y. and Chuang, W.J. 2002. Solution structure of the DNA-binding domain of interleukin enhancer binding factor 1 (FOXK1a). Proteins 49: 543-553.
6. Katoh, M. and Katoh, M. 2004. Human FOX gene family (review). Int. J. Oncol. 25: 1495-1500.

CHROMOSOMAL LOCATION

Genetic locus: FOXK2 (human) mapping to 17q25.3.

PRODUCT

FOXK2 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 FOXK2 shRNA Plasmid (h): sc-94054-SH and FOXK2 shRNA (h) Lentiviral Particles: sc-94054-V as alternate gene silencing products.

For independent verification of FOXK2 (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-94054A, sc-94054B and sc-94054C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

FOXK2 siRNA (h) is recommended for the inhibition of FOXK2 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 FOXK2 gene expression knockdown using RT-PCR Primer: FOXK2 (h)-PR: sc-94054-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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