SANTA CRUZ BIOTECHNOLOGY, INC.

FOXD2 siRNA (h): sc-60651

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. FOXD1 (also designated brain factor 2 or BF-2) is involved in regulating inflammation as well as kidney and retinal development. FOXD1 regulates the activity of NFAT and NFκB. Deficiency of FOXD1 results in multiorgan systemic inflammation, exaggerated Th cell-derived cytokine production and T cell proliferation in autogolgous MLRs. In kidneys, FOXD1 controls the production of signals required for the normal transition of induced mesenchyme into tubular epithelium and full growth and branching of the collecting system. Deletion of FOXD1 results in renal abnormalities. FOXD2 acts as a modulator of T cell activation.

REFERENCES

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3. Herrera, E., Marcus, R., Li, S., Williams, S.E., Erskine, L., Lai, E. and Mason, C. 2004. FOXD1 is required for proper formation of the optic chiasm. Development 131: 5727-5739.
4. Katoh, M. and Katoh, M. 2004. Human FOX gene family. Int. J. Oncol. 25: 1495-1500.
5. Jonsson, H. and Peng, S.L. 2005. Forkhead transcription factors in immunology. Cell. Mol. Life Sci. 62: 397-409.
6. Levinson, R.S., Batourina, E., Choi, C., Vorontchikhina, M., Kitajewski, J. and Mendelsohn, C.L. 2005. FOXD1-dependent signals control cellularity in the renal capsule, a structure required for normal renal development. Development 132: 529-539.
7. Lin, L. and Peng, S.L. 2006. Coordination of NFκB and NFAT antagonism by the forkhead transcription factor FOXD1. J. Immunol. 176: 4793-4803.

CHROMOSOMAL LOCATION

Genetic locus: FOXD2 (human) mapping to 1p33.

PRODUCT

FOXD2 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 FOXD2 shRNA Plasmid (h): sc-60651-SH and FOXD2 shRNA (h) Lentiviral Particles: sc-60651-V as alternate gene silencing products.

For independent verification of FOXD2 (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-60651A, sc-60651B and sc-60651C.

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

FOXD2 siRNA (h) is recommended for the inhibition of FOXD2 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 FOXD2 gene expression knockdown using RT-PCR Primer: FOXD2 (h)-PR: sc-60651-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Batmanov, K., Wang, W., Bjoras, M., Delabie, J. and Wang, J. 2017. Integrative whole-genome sequence analysis reveals roles of regulatory mutations in BCL6 and BCL2 in follicular lymphoma. Sci. Rep. 7: 7040.

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.