SANTA CRUZ BIOTECHNOLOGY, INC.

FOXL1 siRNA (m): sc-77416

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The Power to Question

BACKGROUND

FOXL1 is a 337 amino acid protein encoded by the mouse gene Foxl1. FOXL1 belongs to the forkhead family and contains one forkhead DNA-binding domain. The HNF3/forkhead family includes a large number of transcription factors that share a structurally related DNA binding domain. forkhead factors are known to play important roles both during development and in adults. FOXL1 is a winged helix transcriptional regulator expressed in the mesenchymal layer of developing and mature gastrointestinal tract. FOXL1-deficient mice exhibit various defects not only in the epithelial layer of the gastrointestinal tract but also in gut-associated lymphoid tissues. In the small intestine of FOXL1-deficient mice, the formation of Peyer's patches is affected, particularly in the caudal region. FOXL1 is a mesenchymal modifier of the adenomatous polyposis coli (APC) gene products and plays a key role in gastrointestinal tumorigenesis.

REFERENCES

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2. Kaestner, K.H., et al. 1996. Clustered arrangement of winged helix genes fkh-6 and MFH-1: possible implications for mesoderm development. Development 122: 1751-1758.
3. Perreault, N., et al. 2001. Foxl1 controls the Wnt/β-catenin pathway by modulating the expression of proteoglycans in the gut. J. Biol. Chem. 276: 43328-43333.
4. Mazet, F., et al. 2003. Phylogenetic relationships of the Fox (forkhead) gene family in the bilateria. Gene 316: 79-89.
5. Fukuda, K., et al. 2003. Mesenchymal expression of Foxl1, a winged helix transcriptional factor, regulates generation and maintenance of gut-associated lymphoid organs. Dev. Biol. 255: 278-289.
6. Katz, J.P., et al. 2004. Foxl1 null mice have abnormal intestinal epithelia, postnatal growth retardation, and defective intestinal glucose uptake. Am. J. Physiol. Gastrointest. Liver Physiol. 287: G856-G864.
7. Perreault, N., et al. 2005. Foxl1 is a mesenchymal modifier of Min in carcinogenesis of stomach and colon. Genes Dev. 19: 311-315.
8. Takano-Maruyama, M., et al. 2006. Foxl1-deficient mice exhibit aberrant epithelial cell positioning resulting from dysregulated EphB/EphrinB expression in the small intestine. Am. J. Physiol. Gastrointest. Liver Physiol. 291: G163-G170.

CHROMOSOMAL LOCATION

Genetic locus: Foxl1 (mouse) mapping to 8 E1.

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.

PRODUCT

FOXL1 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 FOXL1 shRNA Plasmid (m): sc-77416-SH and FOXL1 shRNA (m) Lentiviral Particles: sc-77416-V as alternate gene silencing products.

For independent verification of FOXL1 (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-77416A, sc-77416B and sc-77416C.

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

FOXL1 siRNA (m) is recommended for the inhibition of FOXL1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FOXL1 gene expression knockdown using RT-PCR Primer: FOXL1 (m)-PR: sc-77416-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.