SANTA CRUZ BIOTECHNOLOGY, INC.

FOXP4 siRNA (m): sc-145228

BACKGROUND

The forkhead box (FOX) family of transcription factors represent a group of proteins that share a common FOX DNA-binding domain and play important roles in cell- and tissue-specific protein expression during development. The FOX family is divided into subfamilies, one of which is subfamily P. FOXP4 (forkhead box protein P4), also known as FKHLA (Fork head-related protein-like A), is a 680 amino acid nuclear protein that belongs to the P subfamily of FOX proteins and contains one C_2H_2-type zinc finger and one FOX DNA-binding domain. Functioning as a transcriptional repressor, FOXP4 exists as either homodimers or heterodimers with FOXP1 and FOXP2 and plays a role in the repression of lung-specific protein expression. FOXP4 is thought to participate in mammalian oncogenesis, specifically in the development of kidney and larynx tumors. Multiple isoforms of FOXP4 exist due to alternative splicing events.

REFERENCES

1. Lu, M.M., et al. 2002. Foxp4: a novel member of the Foxp subfamily of winged-helix genes co-expressed with Foxp1 and Foxp2 in pulmonary and gut tissues. Gene Expr. Patterns 2: 223-228.
2. Lu, M.M., et al. 2002. Foxp4: a novel member of the Foxp subfamily of winged-helix genes co-expressed with Foxp1 and Foxp2 in pulmonary and gut tissues. Mech. Dev. 1: S197-S202.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608924. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Teufel, A., et al. 2003. FoxP4, a novel forkhead transcription factor. Biochim. Biophys. Acta 1627: 147-152.
5. Katoh, M. and Katoh, M. 2004. Human FOX gene family (review). Int. J. Oncol. 25: 1495-1500.
6. Li, S., et al. 2004. Transcriptional and DNA binding activity of the Foxp1/2/4 family is modulated by heterotypic and homotypic protein interactions. Mol. Cell. Biol. 24: 809-822.
7. Hannenhalli, S., et al. 2006. Transcriptional genomics associates FOX transcription factors with human heart failure. Circulation 114: 1269-1276.

CHROMOSOMAL LOCATION

Genetic locus: Foxp4 (mouse) mapping to 17 C.

PRODUCT

FOXP4 siRNA (m) is a pool of 2 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 FOXP4 shRNA Plasmid (m): sc-145228-SH and FOXP4 shRNA (m) Lentiviral Particles: sc-145228-V as alternate gene silencing products.

For independent verification of FOXP4 (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-145228A and sc-145228B.

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

FOXP4 siRNA (m) is recommended for the inhibition of FOXP4 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.

GENE EXPRESSION MONITORING

FOXP4 (D-8): sc-390892 is recommended as a control antibody for monitoring of FOXP4 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 FOXP4 gene expression knockdown using RT-PCR Primer: FOXP4 (m)-PR: sc-145228-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.