SANTA CRUZ BIOTECHNOLOGY, INC.

FKHL18 siRNA (m): sc-145195

BACKGROUND

The Fox family of transcription factors is a large group of proteins that share a common DNA-binding domain, termed a winged-helix or forkhead domain, and are classified into 20 subclasses. Many Fox proteins play important roles in development, metabolism, cancer and aging. FKHL18, also designated Forkhead box protein S1 (FoxS1) or Forkhead-related transcription factor 10 (FREAC-10), is a structurally unique member of the Fox family. FKHL18 is expressed in aorta, sensory neurons and fetal testis, suggesting diverse functions of the FKHL18 protein. Specifically, FKHL18 is thought to play a role in the integration and processing of neuronal signaling necessary for energy turnover and motor function. It has also been established as an early sensory neuronal marker.

REFERENCES

1. Cederberg, A., et al. 1997. Chromosome localization, sequence analysis, and expression pattern identify FKHL 18 as a novel human forkhead gene. Genomics 44: 344-346.
2. Katoh, M. and Katoh, M. 2004. Human FOX gene family (review). Int. J. Oncol. 25: 1495-15500.
3. Jonsson, H. and Peng, S.L. 2005. Forkhead transcription factors in immunology. Cell. Mol. Life Sci. 62: 397-409.
4. Heglind, M., et al. 2005. Lack of the central nervous system- and neural crest-expressed forkhead gene Foxs1 affects motor function and body weight. Mol. Cell. Biol. 25: 5616-5625.
5. Wotton, K.R. and Shimeld, S.M. 2006. Comparative genomics of vertebrate Fox cluster loci. BMC Genomics 7: 271.
6. Montelius, A., et al. 2007. Emergence of the sensory nervous system as defined by Foxs1 expression. Differentiation 75: 404-417.
7. Sato, Y., et al. 2008. Importance of forkhead transcription factor FKHL18 for development of testicular vasculature. Mol. Reprod. Dev. 75: 1361-1371.

CHROMOSOMAL LOCATION

Genetic locus: Foxs1 (mouse) mapping to 2 H1.

PRODUCT

FKHL18 siRNA (m) is a target-specific 19-25 nt siRNA 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 FKHL18 shRNA Plasmid (m): sc-145195-SH and FKHL18 shRNA (m) Lentiviral Particles: sc-145195-V as alternate gene silencing products.

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.

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

FKHL18 siRNA (m) is recommended for the inhibition of FKHL18 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

FKHL18 (G-7): sc-398599 is recommended as a control antibody for monitoring of FKHL18 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 FKHL18 gene expression knockdown using RT-PCR Primer: FKHL18 (m)-PR: sc-145195-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.