SANTA CRUZ BIOTECHNOLOGY, INC.

TCF23 siRNA (m): sc-154136

BACKGROUND

Basic helix-loop-helix (bHLH) proteins are a group of transcription factors that influence the regulation of neurogenesis, cardiogenesis, myogenesis, differentiation and cell proliferation. TCF23 (transcription factor 23), also known as OUT or bHLHa24, is a 214 amino acid nuclear protein that is expressed in liver, kidney, spleen and reproductive organs. Containing one basic helix-loop-helix (bHLH) domain, TCF23 inhibits E-box-mediated binding and transactivation of bHLH factors. TCF23 is considered a novel basic helix-loop-helix transcription factor with Id-like inhibitory activity and is suggested to participate in the inhibition of myogenesis. TCF23 is encoded by a gene on human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome.

REFERENCES

1. Chaudhary, J., Cupp, A.S. and Skinner, M.K. 1997. Role of basic-helix-loop-helix transcription factors in Sertoli cell differentiation: identification of an E-box response element in the transferrin promoter. Endocrinology 138: 667-675.
2. Narumi, O., Mori, S., Boku, S., Tsuji, Y., Hashimoto, N., Nishikawa, S. and Yokota, Y. 2000. OUT, a novel basic helix-loop-helix transcription factor with an Id-like inhibitory activity. J. Biol. Chem. 275: 3510-3521.
3. Tachibana, M., Narumi, O., Muguruma, K., Yamamoto, I., Shinkai, Y. and Yokota, Y. 2001. Genomic organization and chromosomal mapping of the basic helix-loop-helix factor OUT (Tcf23/TCF23). Cytogenet. Cell Genet. 94: 23-25.
4. McLellan, A.S., Langlands, K. and Kealey, T. 2002. Exhaustive identification of human class II basic helix-loop-helix proteins by virtual library screening. Gene Expr. Patterns 2: 329-335.
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CHROMOSOMAL LOCATION

Genetic locus: Tcf23 (mouse) mapping to 5 B1.

PRODUCT

TCF23 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 TCF23 shRNA Plasmid (m): sc-154136-SH and TCF23 shRNA (m) Lentiviral Particles: sc-154136-V as alternate gene silencing products.

For independent verification of TCF23 (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-154136A, sc-154136B and sc-154136C.

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

TCF23 siRNA (m) is recommended for the inhibition of TCF23 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 TCF23 gene expression knockdown using RT-PCR Primer: TCF23 (m)-PR: sc-154136-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.