

TEF-4 siRNA (h): sc-45232

BACKGROUND

The transcriptional enhancer factor (TEF)/TEAD family includes TEF-1, TEF-3, TEF-4 and TEF-5. These proteins share a highly conserved 68 amino acid TEA/ATTS DNA-binding domain which binds to SV40 GT-IIC (GGAATG), SphI (AGTATG), SphII (AGCATG) and muscle-specific M-CAT (GGTATG) enhancers. TEFs are differentially expressed in human cultured cell lines and mouse embryonic and extra-embryonic tissues. Specifically, TEF-4 is strongly co-expressed with TEF-1 in mouse mitotic neuroblasts, and is also detected in the gut and the nephrogenic region of the kidney. TEF-4 associates with the powerful transcriptional coactivator Yap65 to mediate mitogenic signals. In addition, TEF-4 promotes the activation of the CTP:phosphocholine cytidyltransferase (CCT) α protein, which is the rate-limiting enzyme of phosphatidylcholine biosynthesis by enhancing the transcriptional activity of Ets-1.

REFERENCES

1. Jacquemin, P., et al. 1996. A novel family of developmentally regulated mammalian transcription factors containing the TEA/ATTS DNA-binding domain. *J. Biol. Chem.* 271: 21775-21785.
2. Jacquemin, P., et al. 1999. Localization of human transcription factor TEF-4 and TEF-5 (TEAD2, TEAD3) genes to chromosomes 19q13.3 and 6p21.2 using fluorescence *in situ* hybridization and radiation hybrid analysis. *Genomics* 55: 127-129.
3. Jiang, S.W., et al. 2000. Cooperative binding of TEF-1 to repeated GGAATG-related consensus elements with restricted spatial separation and orientation. *DNA Cell Biol.* 19: 507-514.

CHROMOSOMAL LOCATION

Genetic locus: TEAD2 (human) mapping to 19q13.33.

PRODUCT

TEF-4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TEF-4 shRNA Plasmid (h): sc-45232-SH and TEF-4 shRNA (h) Lentiviral Particles: sc-45232-V as alternate gene silencing products.

For independent verification of TEF-4 (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-45232A, sc-45232B and sc-45232C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TEF-4 siRNA (h) is recommended for the inhibition of TEF-4 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 μ M in 66 μ l. 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

TEF-4 (C-10): sc-518181 is recommended as a control antibody for monitoring of TEF-4 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 TEF-4 gene expression knockdown using RT-PCR Primer: TEF-4 (h)-PR: sc-45232-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Tang, Y., et al. 2016. Snail/Slug binding interactions with YAP/TAZ control skeletal stem cell self-renewal and differentiation. *Nat. Cell Biol.* 18: 917-929.
2. Schaal, C.M., et al. 2018. Regulation of Sox2 and stemness by nicotine and electronic-cigarettes in non-small cell lung cancer. *Mol. Cancer* 17: 149.
3. Bora-Singhal, N., et al. 2022. A novel PHD2/VHL-mediated regulation of YAP1 contributes to VEGF expression and angiogenesis. *Cancer Res. Commun.* 2: 624-638.

RESEARCH USE

For research use only, not for use in diagnostic procedures.