SANTA CRUZ BIOTECHNOLOGY, INC.

TEF-3 siRNA (h): sc-96187

BACKGROUND

TEF-3, also known as TEAD4 (TEA domain family member 4), RTEF1, EFTR-2, TEFR-1, TCF13L1 or hRTEF-1B, is a 427 amino acid member of the transcriptional enhancer factor (TEF) family of proteins that are characterized by the presence of a TEA DNA-binding domain. Localized to the nucleus and expressed primarily in skeletal muscle, TEF-3 functions as a transcriptional regulator by binding specifically and non-cooperatively to the M-CAT motif found in the promotors of muscle-specific genes, thereby directing their subsequent expression. TEF-3 contains one TEA DNA-binding domain and is expressed as multiple isoforms due to alternative splicing events.

REFERENCES

1. Stewart, A.F., et al. 1996. Cloning of human RTEF-1, a transcriptional enhancer factor-1-related gene preferentially expressed in skeletal muscle: evidence for an ancient multigene family. Genomics 37: 68-76.
2. Hsu, D.K., et al. 1996. Identification of a murine TEF-1-related gene expressed after mitogenic stimulation of quiescent fibroblasts and during myogenic differentiation. J. Biol. Chem. 271: 13786-13795.
3. 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.
4. Vassilev, A., et al. 2001. TEAD/TEF transcription factors utilize the activation domain of YAP65, a Src/Yes-associated protein localized in the cytoplasm. Genes Dev. 15: 1229-1241.

CHROMOSOMAL LOCATION

Genetic locus: TEAD4 (human) mapping to 12p13.33.

PRODUCT

TEF-3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TEF-3 shRNA Plasmid (h): sc-96187-SH and TEF-3 shRNA (h) Lentiviral Particles: sc-96187-V as alternate gene silencing products.

For independent verification of TEF-3 (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-96187A, sc-96187B and sc-96187C.

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

TEF-3 siRNA (h) is recommended for the inhibition of TEF-3 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 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

TEF-3 (B-5): sc-390578 is recommended as a control antibody for monitoring of TEF-3 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 TEF-3 gene expression knockdown using RT-PCR Primer: TEF-3 (h)-PR: sc-96187-PR (20 µl). 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. 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.