SANTA CRUZ BIOTECHNOLOGY, INC.

TTF2 siRNA (h): sc-106890

BACKGROUND

TTF2 (transcription termination factor 2), also known as HuF2, is a dsDNA (double-stranded DNA)-dependent ATPase that functions as a transcription termination factor. Localized to the cytoplasm during interphase and to the nucleus once the cell enters mitosis, TTF2 couples ATP hydrolysis with the removal of RNA polymerase II (Pol II) from the DNA template, thereby terminating transcription. TTF2 is a member of the Swi2/Snf2 protein family and, in addition to its ability to terminate transcription, is thought to play a role in pre-mRNA splicing and mitotic transcriptional repression. TTF2 contains one helicase ATP-binding domain and is thought to interact with both the spliceosome complex and with Cdc5L (cell division cycle 5-like). Two isoforms of TTF2 exist due to alternative splicing events.

REFERENCES

1. Liu, M., Xie, Z. and Price, D.H. 1998. A human RNA polymerase II transcription termination factor is a Swi2/Snf2 family member. J. Biol. Chem. 273: 25541-25544.
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3. Leonard, D., Ajuh, P., Lamond, A.I. and Legerski, R.J. 2003. hLodestar/HuF2 interacts with Cdc5L and is involved in pre-mRNA splicing. Biochem. Biophys. Res. Commun. 308: 793-801.
4. Jiang, Y. and Price, D.H. 2004. Rescue of the TTF2 knockdown phenotype with an siRNA-resistant replacement vector. Cell Cycle 3: 1151-1153.
5. Jiang, Y., Liu, M., Spencer, C.A. and Price, D.H. 2004. Involvement of transcription termination factor 2 in mitotic repression of transcription elongation. Mol. Cell 14: 375-385.
6. Yu, L.R., Zhu, Z., Chan, K.C., Issaq, H.J., Dimitrov, D.S. and Veenstra, T.D. 2007. Improved titanium dioxide enrichment of phosphopeptides from HeLa cells and high confident phosphopeptide identification by cross-validation of MS/MS and MS/MS/MS spectra. J. Proteome Res. 6: 4150-4162.

CHROMOSOMAL LOCATION

Genetic locus: TTF2 (human) mapping to 1p13.1.

PRODUCT

TTF2 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 TTF2 shRNA Plasmid (h): sc-106890-SH and TTF2 shRNA (h) Lentiviral Particles: sc-106890-V as alternate gene silencing products.

For independent verification of TTF2 (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-106890A, sc-106890B and sc-106890C.

RESEARCH USE

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

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

TTF2 siRNA (h) is recommended for the inhibition of TTF2 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

TTF2 (B-2): sc-514996 is recommended as a control antibody for monitoring of TTF2 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 TTF2 gene expression knockdown using RT-PCR Primer: TTF2 (h)-PR: sc-106890-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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