SANTA CRUZ BIOTECHNOLOGY, INC.

TCEA3 siRNA (m): sc-63112

BACKGROUND

TCEA3 (transcription elongation factor A (SII) protein 3), also known as TFIIS.h, is a member of the TFS-II family. Transcription elongation factors of the TFS-II family are responsible for releasing RNA polymerase II (Pol II) from transcriptional arrest. DNA arresting sites can result in locked ternary complexes if elongating RNA polymerases are trapped. Transcription elongation factors function to activate the intrinsic RNA cleavage activity of RNA polymerases. This allows the RNA polymerase to cleave the nascent transcript, thereby forming a new 3'-terminus to resume elongation. TCEA3 is a 348 amino acid protein and it contains one TFIIS N-terminal domain, one TFIIS central domain and one TFIIS-type zinc finger. TCEA3 localizes to the nucleus and binds to Pol II, functioning to assist its transcription elongation past arresting sites.

REFERENCES

1. Gu, W., et al. 1995. Variation in the size of nascent RNA cleavage products as a function of transcript length and elongation competence. J. Biol. Chem. 270: 30441-30447.
2. Labhart, P., et al. 1998. Identification of novel genes encoding transcription elongation factor TFIIS (TCEA) in vertebrates: conservation of three distinct TFIIS isoforms in frog, mouse, and human. Genomics 52: 278-288.
3. Wind, M., et al. 2000. Transcription elongation factor SII. Bioessays 22: 327-336.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604128. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Rowland, J.E., et al. 2005. *In vivo* analysis of growth hormone receptor signaling domains and their associated transcripts. Mol. Cell. Biol. 25: 66-77.
6. Zhang, C., et al. 2005. Human RNA polymerase II elongation in slow motion: role of the TFIIF RAP74 α1 helix in nucleoside triphosphate-driven translocation. Mol. Cell. Biol. 25: 3583-3595.
7. Fish, R.N., et al. 2006. Genetic interactions between TFIIF and TFIIS. Genetics 173: 1871-1884.

CHROMOSOMAL LOCATION

Genetic locus: Tcea3 (mouse) mapping to 4 D3.

PRODUCT

TCEA3 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 TCEA3 shRNA Plasmid (m): sc-63112-SH and TCEA3 shRNA (m) Lentiviral Particles: sc-63112-V as alternate gene silencing products.

For independent verification of TCEA3 (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-63112A, sc-63112B and sc-63112C.

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

TCEA3 siRNA (m) is recommended for the inhibition of TCEA3 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

TCEA3 (C-7): sc-365894 is recommended as a control antibody for monitoring of TCEA3 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 TCEA3 gene expression knockdown using RT-PCR Primer: TCEA3 (m)-PR: sc-63112-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.

PROTOCOLS

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