SANTA CRUZ BIOTECHNOLOGY, INC.

TCEA3 (m): 293T Lysate: sc-126083

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The Power to Question

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. and Reines, D. 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. and Morgan, G.T. 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. and Reines, D. 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., Lichanska, A.M., Kerr, L.M., White, M., d'Aniello, E.M., Maher, S.L., Brown, R., Teasdale, R.D., Noakes, P.G. and Waters, M.J. 2005. *In vivo* analysis of growth hormone receptor signaling domains and their associated transcripts. Mol. Cell. Biol. 25: 66-77.
6. Zhang, C., Zobeck, K.L. and Burton, Z.F. 2005. Human RNA polymerase II elongation in slow motion: role of the TFIIF RAP 74 α1 helix in nucleoside triphosphate-driven translocation. Mol. Cell. Biol. 25: 3583-3595.
7. Fish, R.N., Ammerman, M.L., Davie, J.K., Lu, B.F., Pham, C., Howe, L., Ponticelli, A.S. and Kane, C.M. 2006. Genetic interactions between TFIIF and TFIIS. Genetics 173: 1871-1884.
8. Ling, Y., Smith, A.J. and Morgan, G.T. 2006. A sequence motif conserved in diverse nuclear proteins identifies a protein interaction domain utilised for nuclear targeting by human TFIIS. Nucleic Acids Res. 34: 2219-2229.
9. Feitelson, M.A. and Lee, J. 2007. Hepatitis B virus integration, fragile sites, and hepatocarcinogenesis. Cancer Lett. 252: 157-170.

CHROMOSOMAL LOCATION

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

PRODUCT

TCEA3 (m): 293T Lysate represents a lysate of mouse TCEA3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

TCEA3 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive TCEA3 antibodies. Recommended use: 10-20 µl per lane.

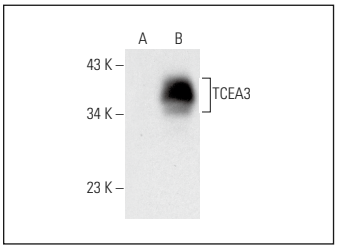
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TCEA3 (E-7): sc-398464 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse TCEA3 expression in TCEA3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

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.

DATA



TCEA3 (E-7): sc-398464. Western blot analysis of TCEA3 expression in non-transfected: sc-117752 (**A**) and mouse TCEA3 transfected: sc-126083 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

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.