SANTA CRUZ BIOTECHNOLOGY, INC.

TCEA1 (N-15): sc-69021

BACKGROUND

Initiation of transcription from protein-coding genes in eukaryotes is a complex process that requires RNA polymerase II (Pol II) and several basal transcription factors to form the preinitiation complex (PIC). After initiation, promotor-specific contacts between the PIC and Pol II are disrupted, thus allowing elongation (a process regulated by Pol II and several proteins called elongation factors) to begin. TCEA1 (Transcription elongation factor A protein 1), also known as TFIIS or SII, is an elongation factor that is essential for proper elongation past DNA arresting sites. When template-encoded arresting sites trap elongating RNA polymerases, the transcription complex becomes locked, preventing efficient elongation. TCEA1 binds to Pol II and functions to cleave the nascent transcript, thereby unlocking the complex and allowing transcription to continue. Localized to the nucleus, TCEA1 contains three independently-folding domains, all of which are necessary for proper binding to Pol II. Defects in the gene encoding TCEA1 are implicated in salivary gland pleiomorphic adenomas, which are the most common form of benign epithelial tumors of the salivary gland.

REFERENCES

1. Ito, T., et al. 2000. Gene structure and chromosome mapping of mouse transcription elongation factor S-II (Tcea1). Gene 244: 55-63.
2. Kulish, D. and Struhl, K. 2001. TFIIS enhances transcriptional elongation through an artificial arrest site *in vivo*. Mol. Cell. Biol. 21: 4162-4168.
3. Kugawa, F. and Aoki, M. 2002. Genomic cloning of *Xenopus* TFIIS (TCEA1) and identification of its transcription start site. DNA Seq. 13: 55-60.
4. Shakib, K., et al. 2005. Proteomics profiling of nuclear proteins for kidney fibroblasts suggests hypoxia, meiosis, and cancer may meet in the nucleus. Proteomics 5: 2819-2838.
5. Ito, T., et al. 2006. Transcription elongation factor S-II is required for definitive hematopoiesis. Mol. Cell. Biol. 26: 3194-3203.
6. Fish, R.N., et al. 2006. Genetic interactions between TFIIF and TFIIS. Genetics 173: 1871-1884.
7. Asp, J., et al. 2006. CHCHD7-PLAG1 and TCEA1-PLAG1 gene fusions resulting from cryptic, intrachromosomal 8q rearrangements in pleomorphic salivary gland adenomas. Genes Chromosomes Cancer 45: 820-828.

CHROMOSOMAL LOCATION

Genetic locus: TCEA1 (human) mapping to 8q11.23; Tcea1 (mouse) mapping to 1 A1.

SOURCE

TCEA1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TCEA1 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-69021 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-69021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TCEA1 (N-15) is recommended for detection of TCEA1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TCEA1 (N-15) is also recommended for detection of TCEA1 in additional species, including canine.

Suitable for use as control antibody for TCEA1 siRNA (h): sc-63109, TCEA1 siRNA (m): sc-63110, TCEA1 shRNA Plasmid (h): sc-63109-SH, TCEA1 shRNA Plasmid (m): sc-63110-SH, TCEA1 shRNA (h) Lentiviral Particles: sc-63109-V and TCEA1 shRNA (m) Lentiviral Particles: sc-63110-V.

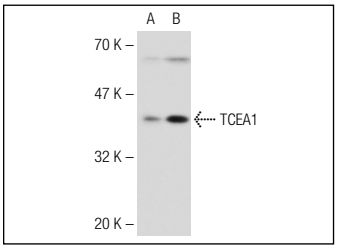
TCEA1 (N-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TCEA1 preprotein: 34 kDa.

Molecular Weight of TCEA1 mature form: 38 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or SP2/0 whole cell lysate.

DATA



TCEA1 (N-15): sc-69021. Western blot analysis of TCEA1 expression in HeLa (**A**) and K-562 (**B**) nuclear extracts.

RESEARCH USE

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