SANTA CRUZ BIOTECHNOLOGY, INC.

TCEA1 (B-6): sc-393520

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

TCEA1 (B-6) is a mouse monoclonal antibody raised against amino acids 78-144 mapping near the N-terminus of TCEA1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCEA1 (B-6) is available conjugated to agarose (sc-393520 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393520 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393520 PE), fluorescein (sc-393520 FITC), Alexa Fluor® 488 (sc-393520 AF488), Alexa Fluor® 546 (sc-393520 AF546), Alexa Fluor® 594 (sc-393520 AF594) or Alexa Fluor® 647 (sc-393520 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393520 AF680) or Alexa Fluor® 790 (sc-393520 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TCEA1 (B-6) is recommended for detection of TCEA1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

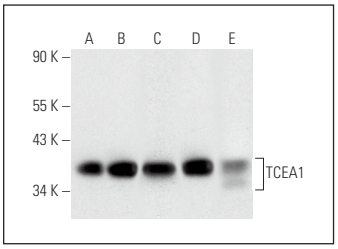
Suitable for use as control antibody for TCEA1 siRNA (h): sc-63109, TCEA1 siRNA (m): sc-63110, TCEA1 shRNA Plasmid (h): sc-63109-SH, TCEA1 shRNA Plasmid (m): sc-63110-SH, TCEA1 shRNA (h) Lentiviral Particles: sc-63109-V and TCEA1 shRNA (m) Lentiviral Particles: sc-63110-V.

Molecular Weight of TCEA1 preprotein: 34 kDa.

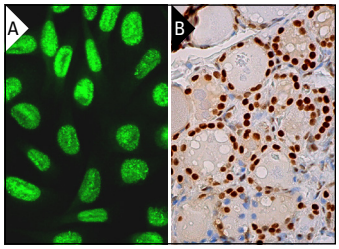
Molecular Weight of mature TCEA1 form: 38 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HUV-EC-C whole cell lysate: sc-364180 or RT-4 whole cell lysate: sc-364257.

DATA



TCEA1 (B-6): sc-393520. Western blot analysis of TCEA1 expression in HeLa (**A**) and K-562 (**B**) nuclear extracts and HUV-EC-C (**C**), SP2/0 (**D**) and RT-4 (**E**) whole cell lysates.



TCEA1 (B-6): sc-393520. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Lee, B., et al. 2016. Synergistic activation of Arg1 gene by retinoic acid and IL-4 involves chromatin remodeling for transcription initiation and elongation coupling. Nucleic Acids Res. 44: 7568-7579.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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.