SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIIC102 (C-2): sc-393235

BACKGROUND

RNA polymerase (pol) III synthesizes tRNA, 5s rRNA, 7SL RNA and U6 snRNA and is overexpressed in many transformed cell lines and tumors *in vivo,* since cells must duplicate its protein components before division. Therefore, in order to maintain rapid growth, cells must produce a high level of Pol III transcribed RNA, which requires the presence of the TFIIIB and TFIIIC2 transcription factor complexes. The TFIIIC2 complex is composed of five subunits, TFIIIC220, TFIIIC110, TFIIIC102, TFIIIC90 and TFIIIC63, that are overexpressed in adenovirus transformed cells as well as in malignant cells *in vivo,* such as ovarian carcinomas. TFIIIC2 recruits RNA pol III and TFIIIB to promoter elements and may be a key component in the deregulation of malignant cells. The TFIIIB complex includes the TATA-binding protein (TBP), TFIIB-related factor 1 (BRF1) and TFIIIB, the expression of which are also upregulated in transformed cells. In many carcinomas, the tumor suppressors retinoblastoma (RB) and p53 are inactivated, which affects their ability to bind and inactivate the function of TFIIIB.

REFERENCES

1. Scott, M.R., et al. 1983. Activation of mouse genes in transformed cells. Cell 34: 557-567.
2. Chen, W., et al. 1997. Expression of neural BC1 RNA: induction in murine tumours. Eur. J. Cancer 33: 288-292.
3. Hsieh, Y.J., et al. 1999. The TFIIIC90 subunit of TFIIIC interacts with multiple components of the RNA polymerase III machinery and contains a histone-specific acetyltransferase activity. Mol. Cell. Biol. 19: 7697-7704.

CHROMOSOMAL LOCATION

Genetic locus: GTF3C3 (human) mapping to 2q33.1; Gtf3c3 (mouse) mapping to 1 C1.1.

SOURCE

TFIIIC102 (C-2) is a mouse monoclonal antibody raised against amino acids 126-413 mapping within an internal region of TFIIIC102 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393235 X, 200 µg/0.1 ml.

TFIIIC102 (C-2) is available conjugated to agarose (sc-393235 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393235 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393235 PE), fluorescein (sc-393235 FITC), Alexa Fluor® 488 (sc-393235 AF488), Alexa Fluor® 546 (sc-393235 AF546), Alexa Fluor® 594 (sc-393235 AF594) or Alexa Fluor® 647 (sc-393235 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393235 AF680) or Alexa Fluor® 790 (sc-393235 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

TFIIIC102 (C-2) is recommended for detection of TFIIIC102 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

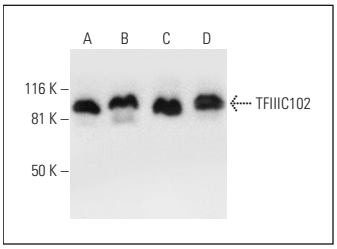
Suitable for use as control antibody for TFIIIC102 siRNA (h): sc-38540, TFIIIC102 siRNA (m): sc-38541, TFIIIC102 shRNA Plasmid (h): sc-38540-SH, TFIIIC102 shRNA Plasmid (m): sc-38541-SH, TFIIIC102 shRNA (h) Lentiviral Particles: sc-38540-V and TFIIIC102 shRNA (m) Lentiviral Particles: sc-38541-V.

TFIIIC102 (C-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

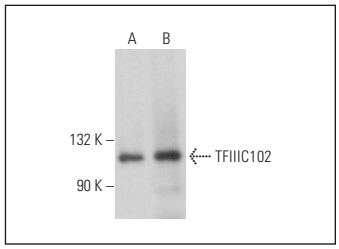
Molecular Weight of TFIIIC102: 102 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138 or BJAB nuclear extract: sc-2145.

DATA



TFIIIC102 (C-2): sc-393235. Western blot analysis of TFIIIC102 expression in HeLa (**A**), NIH/3T3 (**B**), BJAB (**C**) and RAW 264.7 (**D**) nuclear extracts.



TFIIIC102 (C-2): sc-393235. Western blot analysis of TFIIIC102 expression in BYDP whole cell lysate (**A**) and rat thymus tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Di Pascale, F., et al. 2018. C/EBPβ mediates RNA polymerase III-driven transcription of oncomiR-138 in malignant gliomas. Nucleic Acids Res. 46: 336-349.
2. Zhang, C., et al. 2023. STAT3 promotes RNA polymerase III-directed transcription by controlling the miR-106a-5p/TP73 axis. Elife 12: e82826.

STORAGE

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

PROTOCOLS

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