

# TFIIIC102 (X-421): sc-101176

## 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 TFIIB and TFIIC2 transcription factor complexes. The TFIIC2 complex is composed of five subunits, TFIIC220, TFIIC110, TFIIC102, TFIIC90 and TFIIC63, that are overexpressed in adenovirus transformed cells as well as in malignant cells *in vivo*, such as ovarian carcinomas. TFIIC2 recruits RNA pol III and TFIIB to promoter elements and may be a key component in the deregulation of malignant cells. The TFIIB complex includes the TATA-binding protein (TBP), TFIIB-related factor 1 (BRF1) and TFIIB, 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 TFIIB.

## 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 TFIIC90 subunit of TFIIC interacts with multiple components of the RNA polymerase III machinery and contains a histone-specific acetyltransferase activity. *Mol. Cell. Biol.* 19: 7697-7704.
4. Winter, A.G., et al. 2000. RNA polymerase III transcription factor TFIIC2 is overexpressed in ovarian tumors. *Proc. Natl. Acad. Sci. USA* 97: 12619-12624.
5. Moir, R.D., et al. 2000. Interactions between the tetratricopeptide repeat-containing transcription factor TFIIC131 and its ligand, TFIIB70. Evidence for a conformational change in the complex. *J. Biol. Chem.* 275: 26591-26598.
6. McCulloch, V., et al. 2000. Alternatively spliced hBRF variants function at different RNA polymerase III promoters. *EMBO J.* 19: 4134-4143.
7. Schramm, L., et al. 2000. Different human TFIIB activities direct RNA polymerase III transcription from TATA-containing and TATA-less promoters. *Genes Dev.* 14: 2650-2663.

## CHROMOSOMAL LOCATION

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

## SOURCE

TFIIIC102 (X-421) is a mouse monoclonal antibody raised against recombinant TFIIC102 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>2b</sub> kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

TFIIIC102 (X-421) is recommended for detection of TFIIC102 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:100-1:5000).

Suitable for use as control antibody for TFIIC102 siRNA (h): sc-38540, TFIIC102 siRNA (m): sc-38541, TFIIC102 shRNA Plasmid (h): sc-38540-SH, TFIIC102 shRNA Plasmid (m): sc-38541-SH, TFIIC102 shRNA (h) Lentiviral Particles: sc-38540-V and TFIIC102 shRNA (m) Lentiviral Particles: sc-38541-V.

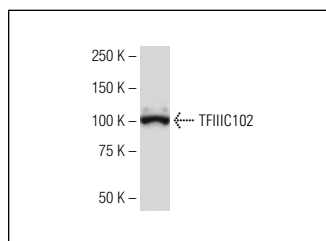
Molecular Weight of TFIIC102: 102 kDa.

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

## 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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



TFIIIC102 (X-421): sc-101176. Western blot analysis of TFIIC102 expression in HeLa nuclear extract.

## SELECT PRODUCT CITATIONS

1. Liu, C., et al. 2015. PRC2 regulates RNA polymerase III transcribed non-translated RNA gene transcription through EZH2 and SUZ12 interaction with TFIIC complex. *Nucleic Acids Res.* 43: 6270-6284.

## 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](http://www.scbt.com) for detailed protocols and support products.