

TFIIIB90-1/3 (K-16): sc-23315

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), TFIIIB-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.
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4. Winter, A.G., et al. 2000. RNA polymerase III transcription factor TFIIIC2 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 TFIIIC131 and its ligand, TFIIIB70. 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 TFIIIB activities direct RNA polymerase III transcription from TATA-containing and TATA-less promoters. *Genes Dev.* 14: 2650-2663.
8. Brown, T.R., et al. 2000. RNA polymerase III transcription: its control by tumor suppressors and its deregulation by transforming agents. *Gene Expr.* 9: 15-28.

CHROMOSOMAL LOCATION

Genetic locus: BRF1 (human) mapping to 14q32.33.

SOURCE

TFIIIB90-1/3 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TFIIIB90 isoform 1 (also designated BRF1) of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23315 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

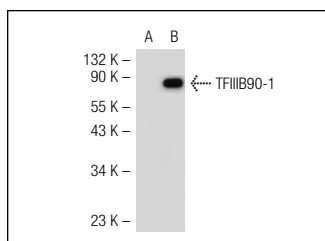
TFIIIB90-1/3 (K-16) is recommended for detection of TFIIIB90 isoforms 1 and 3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TFIIIB90 siRNA (h): sc-38535, TFIIIB90 shRNA Plasmid (h): sc-38535-SH and TFIIIB90 shRNA (h) Lentiviral Particles: sc-38535-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TFIIIB90-1/3 (K-16): sc-23315. Western blot analysis of TFIIIB90-1 expression in non-transfected: sc-117752 (A) and human TFIIIB90-1 transfected: sc-111635 (B) 293T whole cell lysates.

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.