

TFIIIB90-1/2/3/5 (A-8): sc-390821

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 (TFIIIB90, 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.

CHROMOSOMAL LOCATION

Genetic locus: BRF1 (human) mapping to 14q32.33; Brf1 (mouse) mapping to 12 F1.

SOURCE

TFIIIB90-1/2/3/5 (A-8) is a mouse monoclonal antibody raised against amino acids 251-290 mapping within an internal region of TFIIIB90-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-390821 X, 200 µg/0.1 ml.

TFIIIB90-1/2/3/5 (A-8) is available conjugated to agarose (sc-390821 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390821 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390821 PE), fluorescein (sc-390821 FITC), Alexa Fluor® 488 (sc-390821 AF488), Alexa Fluor® 546 (sc-390821 AF546), Alexa Fluor® 594 (sc-390821 AF594) or Alexa Fluor® 647 (sc-390821 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390821 AF680) or Alexa Fluor® 790 (sc-390821 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

TFIIIB90-1/2/3/5 (A-8) is recommended for detection of TFIIIB90 isoforms 1, 2, 3 and 5 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 TFIIIB90 siRNA (h): sc-38535, TFIIIB90 siRNA (m): sc-154232, TFIIIB90 shRNA Plasmid (h): sc-38535-SH, TFIIIB90 shRNA Plasmid (m): sc-154232-SH, TFIIIB90 shRNA (h) Lentiviral Particles: sc-38535-V and TFIIIB90 shRNA (m) Lentiviral Particles: sc-154232-V.

TFIIIB90-1/2/3/5 (A-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

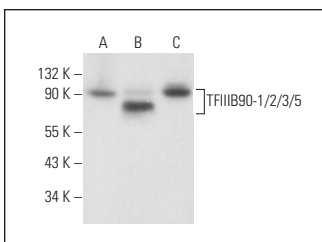
Molecular Weight of TFIIIB90-1/2/3/5: 74 kDa.

Positive Controls: CCRF-CEM nuclear extract: sc-2146, Neuro-2A whole cell lysate: sc-364185 or HeLa nuclear extract: sc-2120.

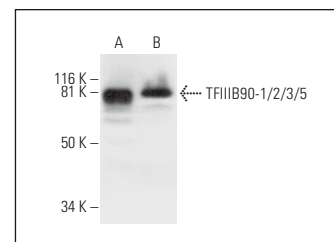
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TFIIIB90-1/2/3/5 (A-8): sc-390821. Western blot analysis of TFIIIB90-1/2/3/5 expression in HeLa nuclear extract (A) and Neuro-2A (B) and TK-1 (C) whole cell lysates.



TFIIIB90-1/2/3/5 (A-8): sc-390821. Western blot analysis of TFIIIB90-1/2/3/5 expression in CCRF-CEM (A) and HeLa (B) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Phillips, E., et al. 2022. MAF1, a repressor of RNA polymerase III-dependent transcription, regulates bone mass. *Elife* 11: e74740.

RESEARCH USE

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