

UBF (F-9): sc-13125

BACKGROUND

The transcription of ribosomal RNA genes by RNA polymerase I (Pol I) is tightly coordinated with the growth state of the cell. In addition to Pol I, transcription of ribosomal genes requires the *trans*-activating factor UBF (upstream binding factor). UBF functions by binding to DNA elements within the RNA gene promoter and enhancer regions and directly associating with Pol I, tethering it to the promoter complex. Two UBF proteins arise from the same gene as a result of alternative mRNA splicings. UBF activity is regulated by several dependent casein kinase II phosphorylates at the carboxy terminus of UBF on serine residues. The retinoblastoma susceptibility gene product, Rb, when not bound to E2F family members, inhibits UBF activity. Expression of RNA may also be negatively regulated by the two Ku antigens.

REFERENCES

1. Jantzen, H.M., et al. 1990. Nucleolar transcription factor hUBF contains a DNA-binding motif with homology to HMG proteins. *Nature* 344: 830-836.
2. Voit, R., et al. 1992. The nucleolar transcription factor mUBF is phosphorylated by casein kinase II in the C-terminal hyperacidic tail which is essential for transactivation. *EMBO J.* 11: 2211-2218.

CHROMOSOMAL LOCATION

Genetic locus: UBTF (human) mapping to 17q21.31; Ubf (mouse) mapping to 11 D.

SOURCE

UBF (F-9) is a mouse monoclonal antibody raised against amino acids 1-220 of UBF 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-13125 X, 200 µg/0.1 ml.

UBF (F-9) is available conjugated to agarose (sc-13125 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13125 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13125 PE), fluorescein (sc-13125 FITC), Alexa Fluor® 488 (sc-13125 AF488), Alexa Fluor® 546 (sc-13125 AF546), Alexa Fluor® 594 (sc-13125 AF594) or Alexa Fluor® 647 (sc-13125 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13125 AF680) or Alexa Fluor® 790 (sc-13125 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.

PROTOCOLS

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

APPLICATIONS

UBF (F-9) is recommended for detection of UBF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:200-1:1,000), 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). UBF (F-9) is also recommended for detection of UBF in additional species, including equine, canine and porcine.

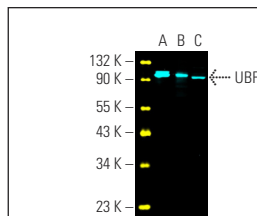
Suitable for use as control antibody for UBF siRNA (h): sc-29514, UBF siRNA (m): sc-29515, UBF shRNA Plasmid (h): sc-29514-SH, UBF shRNA Plasmid (m): sc-29515-SH, UBF shRNA (h) Lentiviral Particles: sc-29514-V and UBF shRNA (m) Lentiviral Particles: sc-29515-V.

UBF (F-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

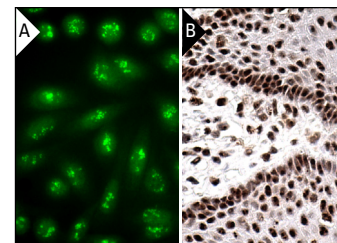
Molecular Weight of UBF isoforms: 94/97 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HL-60 nuclear extract: sc-2147 or NIH/3T3 nuclear extract: sc-2138.

DATA



UBF (F-9) Alexa Fluor® 647: sc-13125 AF647. Direct fluorescent western blot analysis of UBF expression in MCF7 (A) and HL-60 (B) nuclear extracts and IMR-32 whole cell lysate (C). Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 488: sc-516790.



UBF (F-9) Alexa Fluor® 488: sc-13125 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nucleolar and nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). UBF (F-9): sc-13125. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Tu, X., et al. 2002. Nuclear translocation of Insulin receptor substrate-1 by oncogenes and Igf-I. Effect on ribosomal RNA synthesis. *J. Biol. Chem.* 277: 44357-44365.
2. Dong, Z., et al. 2019. Ribosomal Protein L15 is involved in colon carcinogenesis. *Int. J. Med. Sci.* 16: 1132-1141.
3. Thacker, U., et al. 2020. Identification of DHX9 as a cell cycle regulated nucleolar recruitment factor for CIZ1. *Sci. Rep.* 10: 18103.
4. Yehia, L., et al. 2021. Non-canonical role of wild-type SEC23B in the cellular stress response pathway. *Cell Death Dis.* 12: 304.

RESEARCH USE

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