

TFIIB (D-3): sc-271736

BACKGROUND

In eukaryotic systems, initiation of transcription from protein-coding genes is a complex process requiring RNA polymerase II and broad families of auxiliary transcription factors. Such factors can be divided into two major functional classes: the basal factors that are required for transcription of all Pol II genes, including TFIIA, TFIIB, TFIID, TFIIIE, TFIIF and TFIIH; and sequence-specific factors that regulate gene expression. The basal transcription factors and Pol II form a specific multiprotein complex near the transcription start site by interacting with core promoter elements such as the TATA box generally located 25-30 base pairs upstream of the transcription start site. Template commitment is established by the initial binding of TFIID to the "TATA" element of the promoter, a step which may be facilitated by TFIIA. TFIIB then acts as the bridge between TFIID and RNA polymerase II.

REFERENCES

1. Maldonado, E., et al. 1990. Factors involved in specific transcription by mammalian RNA polymerase II: role of transcription factors IIA, IID, and IIB during formation of a transcription-competent complex. *Mol. Cell. Biol.* 10: 6335-6347.
2. Peterson, M.G., et al. 1990. Functional domains and upstream activation properties of cloned human TATA binding protein. *Science* 248: 1625-1630.

CHROMOSOMAL LOCATION

Genetic locus: GTF2B (human) mapping to 1p22.2; Gtf2b (mouse) mapping to 3 H1.

SOURCE

TFIIB (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 289-318 near the C-terminus of TFIIB 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-271736 X, 200 µg/0.1 ml.

TFIIB (D-3) is available conjugated to agarose (sc-271736 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271736 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271736 PE), fluorescein (sc-271736 FITC), Alexa Fluor® 488 (sc-271736 AF488), Alexa Fluor® 546 (sc-271736 AF546), Alexa Fluor® 594 (sc-271736 AF594) or Alexa Fluor® 647 (sc-271736 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271736 AF680) or Alexa Fluor® 790 (sc-271736 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271736 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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

TFIIB (D-3) is recommended for detection of TFIIB p33 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).

TFIIB (D-3) is also recommended for detection of TFIIB p33 in additional species, including canine, bovine and porcine.

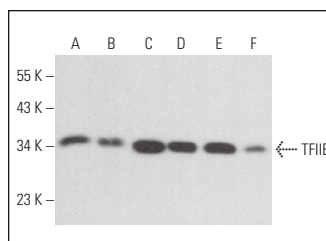
Suitable for use as control antibody for TFIIB siRNA (h): sc-29502, TFIIB siRNA (m): sc-36647, TFIIB shRNA Plasmid (h): sc-29502-SH, TFIIB shRNA Plasmid (m): sc-36647-SH, TFIIB shRNA (h) Lentiviral Particles: sc-29502-V and TFIIB shRNA (m) Lentiviral Particles: sc-36647-V.

TFIIB (D-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

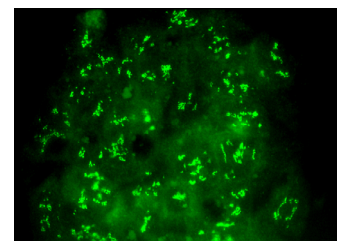
Molecular Weight of TFIIB: 38 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, WR19L cell lysate: sc-3805 or WEHI-231 whole cell lysate: sc-2213.

DATA



TFIIB (D-3): sc-271736. Western blot analysis of TFIIB expression in K-562 (A), HEL 92.1.7 (B), SUP-T1 (C), WR19L (D), WEHI-231 (E) and c4 (F) whole cell lysates.



TFIIB (D-3): sc-271736. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nucleolar localization.

SELECT PRODUCT CITATIONS

1. Du, Y., et al. 2014. NFκB and enhancer-binding CREB protein scaffolded by CREB-binding protein (CBP)/p300 proteins regulate CD59 protein expression to protect cells from complement attack. *J. Biol. Chem.* 289: 2711-2724.
2. Jung, H.J., et al. 2021. New benzimidazothiazolone derivatives as tyrosinase inhibitors with potential anti-melanogenesis and reactive oxygen species scavenging activities. *Antioxidants* 10: 1078.
3. Lee, B., et al. 2022. SMP30-mediated synthesis of vitamin C activates the liver PPARα/FGF21 axis to regulate thermogenesis in mice. *Exp. Mol. Med.* 54: 2036-2046.
4. Velychko, T., et al. 2024. CDK7 kinase activity promotes RNA polymerase II promoter escape by facilitating initiation factor release. *Mol. Cell* 84: 2287-2303.e10.

RESEARCH USE

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