

TFIIB (IIB8): sc-23875

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, TFII E, TFII F and TFII H; 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

- 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.
- 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 (IIB8) is a mouse monoclonal antibody raised against partially purified recombinant human TFIIB, epitope maps to amino acids 52-105.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-23875 X, 200 µg/0.1 ml.

APPLICATIONS

TFIIB (IIB8) is recommended for detection of TFIIB of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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 (IIB8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

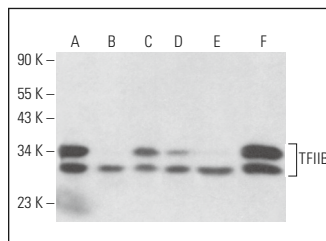
Molecular Weight of TFIIB: 38 kDa.

Positive Controls: U-937 cell lysate: sc-2239, Jurkat nuclear extract: sc-2132 or HeLa nuclear extract: sc-2120.

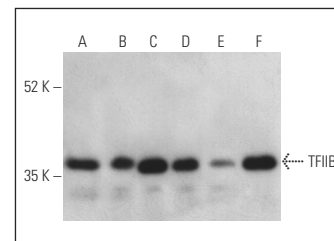
STORAGE

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

DATA



TFIIB (IIB8): sc-23875. Western blot analysis of TFIIB expression in K-562 (A), Hep G2 (B), Jurkat (C) and HeLa (D) nuclear extracts and U-937 (E) and RAW 264.7 (F) whole cell lysates.



TFIIB (IIB8): sc-23875. Western blot analysis of TFIIB expression in K-562 (A), Hep G2 (B), Jurkat (C) and HeLa (D) nuclear extracts and U-937 (E) and RAW 264.7 (F) whole cell lysates. Detection reagent used: m-IgG_{2a} BP-HRP: sc-542731.

SELECT PRODUCT CITATIONS

- Wei, X., et al. 2005. Human MUC1 oncoprotein regulates p53-responsive gene transcription in the genotoxic stress response. *Cancer Cell* 7: 167-178.
- Tran, K. and Gralla, J.D. 2008. Control of the timing of promoter escape and RNA catalysis by the transcription factor IIB fingertip. *J. Biol. Chem.* 283: 15665-15671.
- Boeing, S., et al. 2010. RNA polymerase II C-terminal heptarepeat domain Ser-7 phosphorylation is established in a mediator-dependent fashion. *J. Biol. Chem.* 285: 188-196.
- Sela, D., et al. 2012. Endoplasmic reticulum stress-responsive transcription factor ATF6α directs recruitment of the mediator of RNA polymerase II transcription and multiple histone acetyltransferase complexes. *J. Biol. Chem.* 287: 23035-23045.
- Chang, M.S., et al. 2013. Epstein-Barr virus-encoded BARP1 promotes proliferation of gastric carcinoma cells through regulation of NFκB. *J. Virol.* 87: 10515-10523.
- Planès, R., et al. 2016. HIV-1 tat protein activates both the MyD88 and TRIF pathways to induce tumor necrosis factor α and interleukin-10 in human monocytes. *J. Virol.* 90: 5886-5898.
- Kim, D.H., et al. 2016. Epstein-Barr virus BARP1-induced NFκB/miR-146a/Smad4 alterations in stomach cancer cells. *Oncotarget* 7: 82213-82227.
- Serrero, M., et al. 2017. PKC-δ isoform plays a crucial role in Tat-TLR4 signalling pathway to activate NFκB and CXCL8 production. *Sci. Rep.* 7: 2384.
- Yoon, C.J., et al. 2020. Epstein-Barr virus-encoded miR-BART5-5p upregulates PD-L1 through PIAS3/pSTAT3 modulation, worsening clinical outcomes of PD-L1-positive gastric carcinomas. *Gastric Cancer* 23: 780-795.

RESEARCH USE

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