

TFIIB (24): sc-136190

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, TFIIF and TFIIFH; 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., Ha, I., Cortes, P., Weis, L. and Reinberg, D. 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., Tanese, N., Pugh, B.F. and Tjian, R. 1990. Functional domains and upstream activation properties of cloned human TATA binding protein. *Science* 248: 1625-1630.
- Peterson, M.G., Inostroza, J., Maxon, M.E., Flores, O., Admon, A., Reinberg, D. and Tjian, R. 1991. Structure and functional properties of human general transcription factor IIE. *Nature* 354: 369-373.
- Malik, S., Hisatake, K., Sumimoto, H., Horikoshi, M. and Roeder, R.G. 1991. Sequence of general transcription factor TFIIB and relationships to other initiation factors. *Proc. Natl. Acad. Sci. USA* 88: 9553-9557.
- Lee, D.K., Dejong, J., Hashimoto, S., Horikoshi, M. and Roeder, R.G. 1992. TFIIA induces conformational changes in TFIID via interactions with the basic repeat. *Mol. Cell. Biol.* 12: 5189-5196.
- Takada, R., Nakatani, Y., Hoffmann, A., Kokubo, T., Hasegawa, S., Roeder, R.G. and Horikoshi, M. 1992. Identification of human TFIID components and direct interaction between a 250-kDa polypeptide and the TATA box-binding protein (TFIIDt). *Proc. Natl. Acad. Sci. USA* 89: 11809-11813.
- Yonaha, M., Aso, T., Kobayashi, Y., Vasavada, H., Yasukochi, Y., Weissman, S.M. and Kitajima, S. 1993. Domain structure of a human general transcription initiation factor, TFIIF. *Nucleic Acids Res.* 21: 273-279.

CHROMOSOMAL LOCATION

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

SOURCE

TFIIB (24) is a mouse monoclonal antibody raised against amino acids 2-155 of TFIIB of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

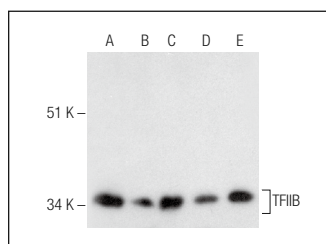
TFIIB (24) is recommended for detection of TFIIB of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

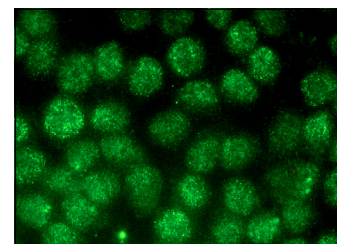
Molecular Weight of TFIIB: 38 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

DATA



TFIIB (24): sc-136190. Western blot analysis of TFIIB expression in Jurkat (A), HeLa (B), K-562 (C), Hep G2 (D) and U-937 (E) nuclear extracts.



TFIIB (24): sc-136190. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Szeto, G.L., Pomerantz, J.L., Graham, D.R. and Clements, J.E. 2011. Minocycline suppresses activation of nuclear factor of activated T cells 1 (NFAT1) in human CD4⁺ T cells. *J. Biol. Chem.* 286: 11275-11282.

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.