

TFIID (ITBP20): sc-56796

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. Binding of TFIID to the TATA element initiates assembly of the other factors into a pre-initiation complex. The TATA-binding subunit of TFIID (designated TFIIDt or TBP) from higher eukaryotes contains a highly-conserved, 180 amino acid C-terminal domain.

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. 1991. Structure and functional properties of human general transcription factor IIE. *Nature* 354: 369-373.
- Lee, D.K., et al. 1992. TFIIA induces conformational changes in TFIID via interactions with the basic repeat. *Mol. Cell. Biol.* 12: 5189-5196.
- Takada, R., et al. 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.
- Huisinga, K.L., et al. 2007. A TATA-binding protein regulatory network that governs transcription complex assembly. *Genome Biol.* 8: R46.
- Romier, C., et al. 2007. Crystal structure, biochemical and genetic characterization of yeast and *E.uniculi* TAF(II)5 N-terminal domain: implications for TFIID assembly. *J. Mol. Biol.* 368: 1292-1306.
- Bhattacharya, S., et al. 2007. Structural analysis and dimerization potential of the human TAF5 subunit of TFIID. *Proc. Natl. Acad. Sci. USA* 104: 1189-1194.

CHROMOSOMAL LOCATION

Genetic locus: TBP (human) mapping to 6q27; Tbp (mouse) mapping to 17 A2.

SOURCE

TFIID (ITBP20) is a mouse monoclonal antibody raised against recombinant TFIID 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.

RESEARCH USE

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

APPLICATIONS

TFIID (ITBP20) is recommended for detection of TFIID 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 TFIID siRNA (h): sc-29503, TFIID siRNA (m): sc-36648, TFIID shRNA Plasmid (h): sc-29503-SH, TFIID shRNA Plasmid (m): sc-36648-SH, TFIID shRNA (h) Lentiviral Particles: sc-29503-V and TFIID shRNA (m) Lentiviral Particles: sc-36648-V.

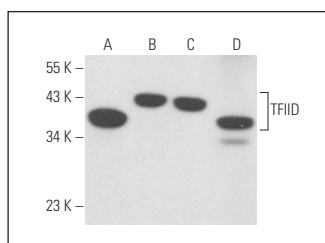
Molecular Weight of TFIID: 36 kDa.

Positive Control: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or NIH/3T3 nuclear extract: sc-2138.

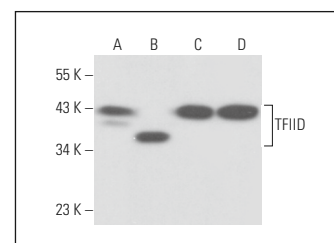
RECOMMENDED SUPPORT REAGENTS

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).

DATA



TFIID (ITBP20): sc-56796. Western blot analysis of TFIID expression in NIH/3T3 (A), HeLa (B) and Jurkat (C) nuclear extracts and mouse testis tissue extract (D).



TFIID (ITBP20): sc-56796. Western blot analysis of TFIID expression in NIH/3T3 (A) and MOLT-4 (B) nuclear extracts and 3T3-L1 (C) and F9 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Kalamvoki, M. and Roizman, B. 2011. The histone acetyltransferase CLOCK is an essential component of the herpes simplex virus 1 transcriptome that includes TFIID, ICP4, ICP27, and ICP22. *J. Virol.* 85: 9472-9477.

STORAGE

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



See **TFIID (TBP) (58C9): sc-421** for TFIID antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.