SANTA CRUZ BIOTECHNOLOGY, INC.

TFIID (1TBP18): sc-56795

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, TFIIE, 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 promotor 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

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. 1991. Structure and functional properties of human general transcription factor IIE. Nature 354: 369-373.
3. Lee, D.K., et al. 1992. TFIIA induces conformational changes in TFIID via interactions with the basic repeat. Mol. Cell. Biol. 12: 5189-5196.
4. 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.
5. Huisinga, K.L., et al. 2007. A TATA-binding protein regulatory network that governs transcription complex assembly. Genome Biol. 8: R46.
6. Romier, C., et al. 2007. Crystal structure, biochemical and genetic characterization of yeast and *E. cuniculi* TAF(II)5 N-terminal domain: implications for TFIID assembly. J. Mol. Biol. 368: 1292-1306.
7. Demeny, M.A., et al. 2007. Identification of a small TAF complex and its role in the assembly of TAF-containing complexes. PLoS ONE 2: e316.

CHROMOSOMAL LOCATION

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

SOURCE

TFIID (1TBP18) is a mouse monoclonal antibody raised against a synthetic TFIID peptide of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

TFIID (1TBP18) 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.

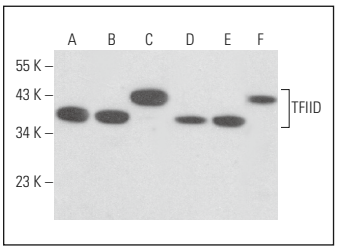
Molecular Weight of TFIID: 36 kDa.

Positive Controls: F9 cell lysate: sc-2245, K-562 nuclear extract: sc-2130 or IMR-32 cell lysate: sc-2409.

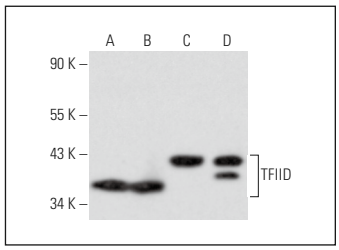
RECOMMENDED SUPPORT REAGENTS

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 (1TBP18): sc-56795. Western blot analysis of TFIID expression in F9 (**A**), Neuro-2A (**B**), IMR-32 (**C**), PC-12 (**D**) and AT3B-1 (**E**) whole cell lysates and HEL 92.1.7 nuclear extract (**F**).



TFIID (1TBP18): sc-56795. Western blot analysis of TFIID expression in F9 whole cell lysate (**A**) and NIH/3T3 (**B**), SK-N-MC (**C**) and K-562 (**D**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Arena, G., et al. 2018. Mitochondrial MDM2 regulates respiratory complex I activity independently of p53. Mol. Cell 69: 594.e8-609.e8.
2. Vitale, C., et al. 2023. Anti-tumor activity of selinexor in combination with antineoplastic agents in chronic lymphocytic leukemia. Sci. Rep. 13: 16950.

RESEARCH USE

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