

TFIIE- β (A-1): sc-137000

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 promoter elements such as the TATA box generally located 25-30 base pairs upstream of the transcription start site. Human TFIIE consists of two subunits, α and β . The structure of TFIIE appears to be a heterotetramer (α 2 β 2); both subunits are required for optimal basal-level transcription.

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.
3. Peterson, M.G., et al. 1991. Structure and functional properties of human general transcription factor IIE. *Nature* 354: 369-373.
4. Ohkuma, Y., et al. 1991. Structural motifs and potential homologies in the large subunit of human general transcription factor TFIIE. *Nature* 354: 398-400.
5. Sumimoto, H., et al. 1991. Conserved sequence motifs in the small subunit of human general transcription factor TFIIE. *Nature* 354: 401-404.

CHROMOSOMAL LOCATION

Genetic locus: GTF2E2 (human) mapping to 8p12; Gtf2e2 (mouse) mapping to 8 A4.

SOURCE

TFIIE- β (A-1) is a mouse monoclonal antibody raised against amino acids 1-291 of TFIIE- β of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} 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-137000 X, 200 μ g/0.1 ml.

TFIIE- β (A-1) is available conjugated to agarose (sc-137000 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137000 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137000 PE), fluorescein (sc-137000 FITC), Alexa Fluor[®] 488 (sc-137000 AF488), Alexa Fluor[®] 546 (sc-137000 AF546), Alexa Fluor[®] 594 (sc-137000 AF594) or Alexa Fluor[®] 647 (sc-137000 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-137000 AF680) or Alexa Fluor[®] 790 (sc-137000 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TFIIE- β (A-1) is recommended for detection of TFIIE- β p34 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

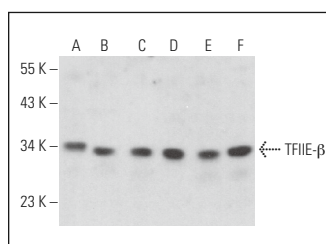
Suitable for use as control antibody for TFIIE- β siRNA (h): sc-36650, TFIIE- β siRNA (m): sc-36649, TFIIE- β shRNA Plasmid (h): sc-36650-SH, TFIIE- β shRNA Plasmid (m): sc-36649-SH, TFIIE- β shRNA (h) Lentiviral Particles: sc-36650-V and TFIIE- β shRNA (m) Lentiviral Particles: sc-36649-V.

TFIIE- β (A-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

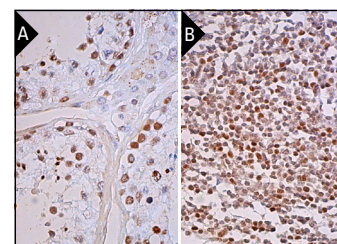
Molecular Weight of TFIIE- β : 34 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



TFIIE- β (A-1): sc-137000. Western blot analysis of TFIIE- β expression in HeLa (A), Jurkat (B), HUV-EC-C (C), RAW 264.7 (D), Hep G2 (E) and Neuro-2A (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



TFIIE- β (A-1): sc-137000. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts and Leydig cells (A) and immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (B). Blocked with 0.25% UltraCruz[®] Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz[®] ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Baluapuri, A., et al. 2019. Myc recruits SPT5 to RNA polymerase II to promote processive transcription elongation. *Mol. Cell* 74: 674-687.e11.
2. Tan-Wong, S.M., et al. 2019. R-loops promote antisense transcription across the mammalian genome. *Mol. Cell* 76: 600-616.e6.

STORAGE

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

RESEARCH USE

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

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA