

## TFIIE- $\alpha$ (H-300): sc-28715

### 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,  $\alpha$  and  $\beta$ . The structure of TFIIE appears to be a heterotetramer ( $\alpha_2\beta_2$ ); 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  $\alpha$  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.
6. Takada, R., et al. 1992. Identification of human TFIID components and direct interaction between a 250 kDa polypeptide and the TATA box-binding protein (TFIID- $\tau$ ). *Proc. Natl. Acad. Sci. USA* 89: 11809-11813.

### CHROMOSOMAL LOCATION

Genetic locus: GTF2E1 (human) mapping to 3q13.33; Gtf2e1 (mouse) mapping to 16 B3.

### SOURCE

TFIIE- $\alpha$  (H-300) is a rabbit polyclonal antibody raised against amino acids 140-439 mapping at the C-terminus of TFIIE- $\alpha$  of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-28715 X, 200  $\mu$ g/0.1 ml.

### STORAGE

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

### APPLICATIONS

TFIIE- $\alpha$  (H-300) is recommended for detection of TFIIE- $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

TFIIE- $\alpha$  (H-300) is also recommended for detection of TFIIE- $\alpha$  in additional species, including equine, canine, bovine and porcine.

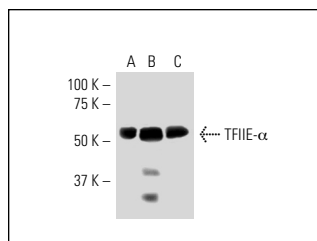
Suitable for use as control antibody for TFIIE- $\alpha$  siRNA (h): sc-36651, TFIIE- $\alpha$  siRNA (m): sc-36652, TFIIE- $\alpha$  shRNA Plasmid (h): sc-36651-SH, TFIIE- $\alpha$  shRNA Plasmid (m): sc-36652-SH, TFIIE- $\alpha$  shRNA (h) Lentiviral Particles: sc-36651-V and TFIIE- $\alpha$  shRNA (m) Lentiviral Particles: sc-36652-V.

TFIIE- $\alpha$  (H-300) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

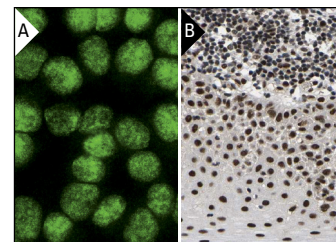
Molecular Weight of TFIIE- $\alpha$ : 57 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or 3611-RF nuclear extract: sc-2143.

### DATA



TFIIE- $\alpha$  (H-300): sc-28715. Western blot analysis of TFIIE- $\alpha$  expression in NIH/3T3 (A) and Rat 2 (B) whole cell lysates and 3611-RF nuclear extract (C).



TFIIE- $\alpha$  (H-300): sc-28715. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear staining of surface epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **TFIIE- $\alpha$  (E-2): sc-133064** or **TFIIE- $\alpha$  (B-7): sc-374014**, our highly recommended monoclonal alternatives to TFIIE- $\alpha$  (H-300).