

## TFIIA- $\alpha$ (X-25): sc-134080

### BACKGROUND

Initiation of transcription from protein-coding genes in eukaryotes is a complex process that requires RNA polymerase II, as well as families of basal transcription factors. Binding of the factor TFIID (TBP) to the TATA box is believed to be the first step in the formation of a multiprotein complex containing several additional factors, including TFIIA, TFIIB, TFIIIE, TFIIF and TFIIH. Recognition of the TATA binding element by TBP, one of the first steps in transcription initiation, may be regulated by TFIIA. TFIIA consists of three subunits designated TFIIA- $\alpha$ , TFIIA- $\beta$  and TFIIA- $\gamma$ , and it interacts with both TBP and TAF (TBP-associated factor). It has been demonstrated that the basic region of TBP is essential for TFIIA-dependent function of TBP.

### REFERENCES

1. Nakajima, N., et al. 1988. Factors involved in specific transcription by mammalian RNA polymerase II: purification, genetic specificity, and TATA box-promoter interactions of TFIID. *Mol. Cell. Biol.* 8: 4028-4040.
2. Buratowski, S., et al. 1989. Five intermediate complexes in transcription initiation by RNA polymerase II. *Cell* 56: 549-61.
3. Conaway, R.C., et al. 1989. An RNA polymerase II transcription factor has an associated DNA-dependent ATPase (dATPase) activity strongly stimulated by the TATA region of promoters. *Proc. Natl. Acad. Sci. USA* 86: 7356-7360.
4. 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.
5. Gerard, M., et al. 1991. Purification and interaction properties of the human polymerase B (II) general transcription factor BTF2. *J. Biol. Chem.* 266: 20940-20945.
6. Flores, O., et al. 1992. Factors involved in specific transcription by mammalian RNA polymerase II. *J. Biol. Chem.* 267: 2786-2793.
7. Ozer, J., et al. 1994. Molecular cloning of the small ( $\gamma$ ) subunit of human TFIIA reveals functions critical for activated transcription. *Genes Dev.* 8: 2324-2335.

### CHROMOSOMAL LOCATION

Genetic locus: GTF2A1 (human) mapping to 14q31.1; Gtf2a1 (mouse) mapping to 12 D3.

### SOURCE

TFIIA- $\alpha$  (X-25) is an affinity purified rabbit polyclonal antibody raised against synthetic TFIIA- $\alpha$  peptide of human origin.

### PRODUCT

Each vial contains 50  $\mu$ g IgG in 500  $\mu$ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

### RESEARCH USE

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

### APPLICATIONS

TFIIA- $\alpha$  (X-25) is recommended for detection of TFIIA- $\alpha$  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).

Suitable for use as control antibody for TFIIA- $\alpha/\beta$  siRNA (h): sc-38517, TFIIA- $\alpha/\beta$  siRNA (m): sc-38518, TFIIA- $\alpha/\beta$  shRNA Plasmid (h): sc-38517-SH, TFIIA- $\alpha/\beta$  shRNA Plasmid (m): sc-38518-SH, TFIIA- $\alpha/\beta$  shRNA (h) Lentiviral Particles: sc-38517-V and TFIIA- $\alpha/\beta$  shRNA (m) Lentiviral Particles: sc-38518-V.

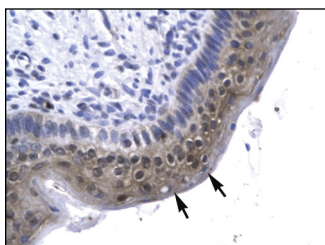
Molecular Weight of TFIIA- $\alpha$  isoforms: 42/37 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

### DATA



TFIIA- $\alpha$  (X-25): sc-134080. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human spermatophore tissue showing cytoplasmic localization.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.