

## TFIIA- $\alpha$ (F-15): sc-12369

### 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, TFIIE, TFIIH and TFIIF. 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: 549-561.
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.

### CHROMOSOMAL LOCATION

Genetic locus: GTF2A1 (human) mapping to 14q31.1, MPP1 (human) mapping to Xq28; Gtf2a1 (mouse) mapping to 12 D3, Mpp1 (mouse) mapping to X A7.3.

### SOURCE

TFIIA- $\alpha$  (F-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TFIIA- $\alpha$  of human origin.

### RESEARCH USE

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

### PRODUCT

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

Blocking peptide available for competition studies, sc-12369 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-12369 X, 200  $\mu$ g/0.1 ml.

### APPLICATIONS

TFIIA- $\alpha$  (F-15) is recommended for detection of TFIIA- $\alpha$  (35 kDa) and p55 precursor of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TFIIA- $\alpha$  (F-15) is also recommended for detection of TFIIA- $\alpha$  (35 kDa) and p55 precursor in additional species, including equine, canine, bovine and avian.

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.

TFIIA- $\alpha$  (F-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Sun, F., et al. 2007. Nuclear reprogramming: the zygotic transcription program is established through an "erase-and-rebuild" strategy. *Cell Res.* 17: 117-134.
2. Zheng, J., et al. 2008. Erasure of the paternal transcription program during spermiogenesis: the first step in the reprogramming of sperm chromatin for zygotic development. *Dev. Dyn.* 237: 1463-1476.

### 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.