SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIA-γ (FL-109): sc-25365

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, 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-α, TFIIA-β and TFIIA-γ, and it interacts with both TBP and a 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.
6. Ozer, J., et al. 1994. Molecular cloning of the small γ subunit of human TFIIA reveals functions critical for activated transcription. Genes Dev. 8: 2324-2335.

CHROMOSOMAL LOCATION

Genetic locus: GTF2A2 (human) mapping to 15q22.2; Gtf2a2 (mouse) mapping to 9 D.

SOURCE

TFIIA-γ (FL-109) is a rabbit polyclonal antibody raised against amino acids 1-109 representing full length TFIIA-γ of human origin.

PRODUCT

Each vial contains 200 µg 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-25365 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

TFIIA-γ (FL-109) is recommended for detection of TFIIA-γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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-γ FL-109) is also recommended for detection of TFIIA-γ in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TFIIA-γ siRNA (h): sc-36645, TFIIA-γ siRNA (m): sc-36646, TFIIA-γ shRNA Plasmid (h): sc-36645-SH, TFIIA-γ shRNA Plasmid (m): sc-36646-SH, TFIIA-γ shRNA (h) Lentiviral Particles: sc-36645-V and TFIIA-γ shRNA (m) Lentiviral Particles: sc-36646-V.

TFIIA-γ (FL-109) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TFIIA-γ: 12 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

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.

SELECT PRODUCT CITATIONS

1. Fairley, J.A., et al. 2005. Human La is found at RNA polymerase III-transcribed genes *in vivo*. Proc. Natl. Acad. Sci. USA 102: 18350-18355.
2. Vernimmen, D., et al. 2007. Long-range chromosomal interactions regulate the timing of the transition between poised and active gene expression. EMBO J. 26: 2041-2051.
3. Kenneth, N.S., et al. 2007. TRRAP and GCN5 are used by c-Myc to activate RNA polymerase III transcription. Proc. Natl. Acad. Sci. USA 104: 14917-14922.
4. Kenneth, N.S., et al. 2008. Recruitment of RNA polymerase III *in vivo*. Nucleic Acids Res. 36: 3757-3764.

STORAGE

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