

TFIIA- γ (D-6): sc-374483



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, 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- 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.

CHROMOSOMAL LOCATION

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

SOURCE

TFIIA- γ (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of TFIIA- γ of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ 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-374483 X, 200 μ g/0.1 ml.

TFIIA- γ (D-6) is available conjugated to agarose (sc-374483 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374483 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374483 PE), fluorescein (sc-374483 FITC), Alexa Fluor[®] 488 (sc-374483 AF488), Alexa Fluor[®] 546 (sc-374483 AF546), Alexa Fluor[®] 594 (sc-374483 AF594) or Alexa Fluor[®] 647 (sc-374483 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374483 AF680) or Alexa Fluor[®] 790 (sc-374483 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374483 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TFIIA- γ (D-6) is recommended for detection of TFIIA- γ 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TFIIA- γ (D-6) is also recommended for detection of TFIIA- γ in additional species, including equine, canine, bovine, porcine and avian.

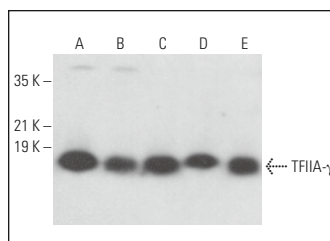
Suitable for use as control antibody for TFIIA- γ siRNA (h): sc-36645, TFIIA- γ siRNA (m): sc-36646, TFIIA- γ shRNA Plasmid (h): sc-36645-SH, TFIIA- γ shRNA Plasmid (m): sc-36646-SH, TFIIA- γ shRNA (h) Lentiviral Particles: sc-36645-V and TFIIA- γ shRNA (m) Lentiviral Particles: sc-36646-V.

TFIIA- γ (D-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

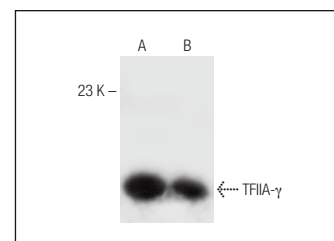
Molecular Weight of TFIIA- γ : 12 kDa.

Positive Controls: 3611-RF whole cell lysate: sc-2215, NIH/3T3 whole cell lysate: sc-2210 or 3T3-L1 cell lysate: sc-2243.

DATA



TFIIA- γ (D-6): sc-374483. Western blot analysis of TFIIA- γ expression in F9 (A), K-562 (B), NIH/3T3 (C), U-251-MG (D) and 3611-RF (E) whole cell lysates.



TFIIA- γ (D-6): sc-374483. Western blot analysis of TFIIA- γ expression in NIH/3T3 (A) and 3T3-L1 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tan-Wong, S.M., et al. 2019. R-loops promote antisense transcription across the mammalian genome. *Mol. Cell* 76: 600-616.e6.
2. Kwan, J.Z.J., et al. 2023. RNA Polymerase II transcription independent of TBP in murine embryonic stem cells. *Elife* 12: e83810.

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.

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