

TFII-I (B-7): sc-46670

BACKGROUND

Initiation of transcription of eukaryotic genes requires the association of large multimeric protein complexes that involve RNA polymerase II and a variety of basal transcription factors, including members of the TFII protein family. TFII proteins complex with Pol II and initiate transcription by binding to the core promoter elements, such as TATA box sequences, that are located upstream of the transcription start codon. A member of the TFII family, TFII-I is regulated by tyrosine phosphorylation, and it is involved in the initiation of transcription of TATA-less promoters and in cell type specific transcription. TFII-I directly associates with several promoters elements, including TATA box, pyrimidine-rich initiator (Inr) and E-box elements. TFII-I is also implicated in activating transcription of the transcription factor c-Fos, a downstream effector protein in the MAP kinase-signaling pathway. TFII-I binds to several initiation sites within the c-Fos promoter, and it is phosphorylated in response to MAP kinase activation, which then enhances TFII-I induced expression of c-Fos.

REFERENCES

1. Conaway, R.C. and Conaway, J.W. 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.
2. Roy, A.L., et al. 1993. An alternative pathway for transcription initiation involving TFII-I. *Nature* 365: 355-359.

CHROMOSOMAL LOCATION

Genetic locus: GTF2I (human) mapping to 7q11.23; Gtf2i (mouse) mapping to 5 G2.

SOURCE

TFII-I (B-7) is a mouse monoclonal antibody raised against amino acids 941-998 of TFII-I of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-46670 X, 200 µg/0.1 ml.

TFII-I (B-7) is available conjugated to agarose (sc-46670 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-46670 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46670 PE), fluorescein (sc-46670 FITC), Alexa Fluor® 488 (sc-46670 AF488), Alexa Fluor® 546 (sc-46670 AF546), Alexa Fluor® 594 (sc-46670 AF594) or Alexa Fluor® 647 (sc-46670 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-46670 AF680) or Alexa Fluor® 790 (sc-46670 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

TFII-I (B-7) is recommended for detection of short and long isoforms of TFII-I of mouse, rat and human origin by Western Blotting (starting dilution 1:1000, dilution range 1:1000-1:10000), 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), 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).

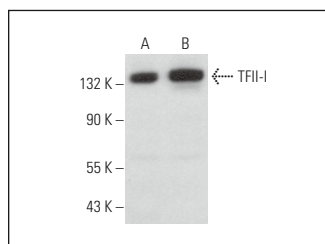
Suitable for use as control antibody for TFII-I siRNA (h): sc-36643, TFII-I siRNA (m): sc-36644, TFII-I shRNA Plasmid (h): sc-36643-SH, TFII-I shRNA Plasmid (m): sc-36644-SH, TFII-I shRNA (h) Lentiviral Particles: sc-36643-V and TFII-I shRNA (m) Lentiviral Particles: sc-36644-V.

TFII-I (B-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

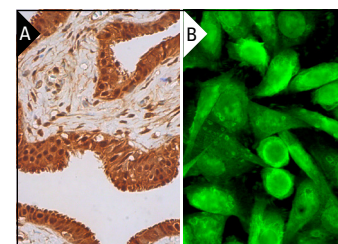
Molecular Weight of TFII-I isoforms: 120/128 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or HeLa whole cell lysate: sc-2200.

DATA



TFII-I (B-7): sc-46670. Western blot analysis of TFII-I expression in K-562 (A) and HEL 92.1.7 (B) whole cell lysates.



TFII-I (B-7) HRP: sc-46670 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear and cytoplasmic staining of glandular cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214 (A). TFII-I (B-7) Alexa Fluor® 488: sc-46670 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

1. Li, Y., et al. 2012. A polymorphic microsatellite repeat within the ECE-1c promoter is involved in transcriptional start site determination, human evolution, and Alzheimer's disease. *J. Neurosci.* 32: 16807-16820.
2. Bondy-Chorney, E., et al. 2020. A broad response to intracellular long-chain polyphosphate in human cells. *Cell Rep.* 33: 108318.
3. Chaomin, W., et al. 2022. Spatiotemporal modulation of SMAD4 by HbX is required for cellular proliferation in hepatitis B-related liver cancer. *Cell. Oncol.* 45: 573-589.

RESEARCH USE

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