SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIE-α (E-2): sc-133064

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In eukaryotic systems, initiation of transcription from protein-coding genes is a complex process requiring RNA polymerase II and broad families of auxiliary transcription factors. Such factors can be divided into two major functional classes: the basal factors that are required for transcription of all Pol II genes, including TFIIA, TFIIB, TFIID, TFIIE, TFIIF and TFIIH; and sequence-specific factors that regulate gene expression. The basal transcription factors and Pol II form a specific multiprotein complex near the transcription start site by interacting with core promotor elements such as the TATA box generally located 25-30 base pairs upstream of the transcription start site. Human TFIIE consists of two subunits, α and β. The structure of TFIIE appears to be a heterotetramer (α2β2); both subunits are required for optimal basal-level transcription.

REFERENCES

1. 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.
2. Peterson, M.G., et al. 1990. Functional domains and upstream activation properties of cloned human TATA binding protein. Science 248: 1625-1630.

CHROMOSOMAL LOCATION

Genetic locus: GTF2E1 (human) mapping to 3q13.33; Gtf2e1 (mouse) mapping to 16 B3.

SOURCE

TFIIE-α (E-2) is a mouse monoclonal antibody raised against amino acids 140-439 mapping at the C-terminus of TFIIE-α of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-133064 X, 200 µg/0.1 ml.

TFIIE-α (E-2) is available conjugated to agarose (sc-133064 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133064 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133064 PE), fluorescein (sc-133064 FITC), Alexa Fluor® 488 (sc-133064 AF488), Alexa Fluor® 546 (sc-133064 AF546), Alexa Fluor® 594 (sc-133064 AF594) or Alexa Fluor® 647 (sc-133064 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133064 AF680) or Alexa Fluor® 790 (sc-133064 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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.

APPLICATIONS

TFIIE-α (E-2) is recommended for detection of TFIIE-α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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 TFIIE-α siRNA (h): sc-36651, TFIIE-α siRNA (m): sc-36652, TFIIE-α shRNA Plasmid (h): sc-36651-SH, TFIIE-α shRNA Plasmid (m): sc-36652-SH, TFIIE-α shRNA (h) Lentiviral Particles: sc-36651-V and TFIIE-α shRNA (m) Lentiviral Particles: sc-36652-V.

TFIIE-α (E-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

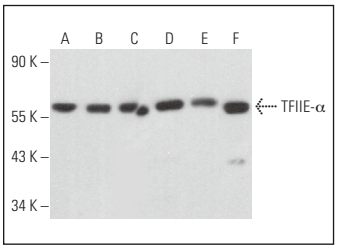
Molecular Weight of TFIIE-α: 57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or Jurkat nuclear extract: sc-2132.

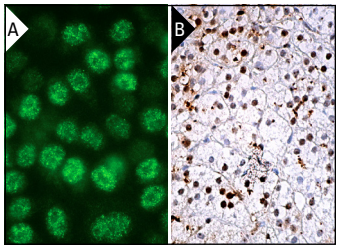
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TFIIE-α (E-2): sc-133064. Western blot analysis of TFIIE-α expression in HeLa (**A**), A-431 (**B**), C6 (**C**), NTERA-2 cl.D1 (**D**) and PC-3 (**E**) whole cell lysates and Jurkat nuclear extract (**F**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



TFIIE-α (E-2): sc-133064. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear staining of glandular cells (**B**).

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.