SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIH p89 (B-7): sc-377301

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. TFIIH (or BTF2) is a multisubunit transcription/DNA repair factor that possesses several enzymatic activities. The core of TFIIH is composed of five subunits, designated p89 (XPB or ERCC3), p62, p52, p44 and p34. Additional subunits of the TFIIH complex are p80 (XPD or ERCC2) and the ternary kinase complex composed of Cdk7, cyclin H and MAT1. Both p89 and p80 have ATP-dependent helicase activity. The p62, p52 and p44 subunits have been shown to be involved in nucleotide excision repair.

REFERENCES

1. 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.
2. Weeda, G., et al. 1990. A presumed DNA helicase encoded by ERCC-3 is involved in the human repair disorders xeroderma pigmentosum and Cockayne's syndrome. Cell 62: 777-791.
3. Weber, C.A., et al. 1990. ERCC2: cDNA cloning and molecular characterization of a human nucleotide excision repair gene with high homology to yeast Rad3. EMBO J. 9: 1437-1447.
4. 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.
5. Flores, O., et al. 1992. Factors involved in specific transcription by mammalian RNA polymerase II. J. Biol. Chem. 267: 2786-2793.
6. Fischer, L., et al. 1992. Cloning of the 62-kilodalton component of basic transcription factor BTF-2. Science 257: 1392-1395.

CHROMOSOMAL LOCATION

Genetic locus: ERCC3 (human) mapping to 2q14.3; Ercc3 (mouse) mapping to 18 B1.

SOURCE

TFIIH p89 (B-7) is a mouse monoclonal antibody raised against amino acids 483-782 mapping at the C-terminus of TFIIH p89 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-377301 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

TFIIH p89 (B-7) is recommended for detection of TFIIH p89 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TFIIH p89 siRNA (h): sc-36655, TFIIH p89 siRNA (m): sc-36656, TFIIH p89 shRNA Plasmid (h): sc-36655-SH, TFIIH p89 shRNA Plasmid (m): sc-36656-SH, TFIIH p89 shRNA (h) Lentiviral Particles: sc-36655-V and TFIIH p89 shRNA (m) Lentiviral Particles: sc-36656-V.

TFIIH p89 (B-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

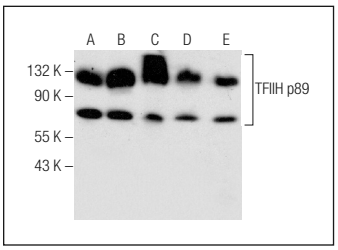
Molecular Weight of TFIIH p89: 89 kDa.

Positive Controls: A-431 nuclear extract: sc-2122, C32 nuclear extract: sc-2136 or NIH/3T3 nuclear extract: sc-2138.

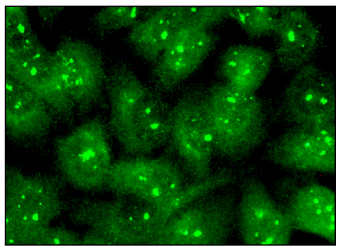
RECOMMENDED SUPPORT REAGENTS

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.

DATA



TFIIH p89 (B-7): sc-377301. Western blot analysis of TFIIH p89 expression in A-431 (**A**), C32 (**B**), MM-142 (**C**), NIH/3T3 (**D**) and 3611-RF (**E**) nuclear extracts.



TFIIH p89 (B-7): sc-377301. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and nucleolar localization.

SELECT PRODUCT CITATIONS

1. Xiang, Y., et al. 2017. RNA m^6A methylation regulates the ultraviolet-induced DNA damage response. Nature 543: 573-576.

RESEARCH USE

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