SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIH p89 (H-300): sc-20697

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 TFII. 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

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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. Fischer, L., et al. 1991. Cloning of the 62 kDa component of basic transcription factor BTF-2. Science 257: 1392-1395.
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.
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7. Humbert, S., et al. 1994. p44 and p34 subunits of the STF2/TFIIH transcription factor have homologies with SSL1, a yeast protein involved in DNA repair. EMBO J. 13: 2393-2398.
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CHROMOSOMAL LOCATION

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

SOURCE

TFIIH p89 (H-300) is a rabbit polyclonal 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 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TFIIH p89 (H-300) is recommended for detection of TFIIH p89 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).

TFIIH p89 (H-300) is also recommended for detection of TFIIH p89 in additional species, including equine, canine, bovine and porcine.

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 (H-300) 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 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.

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.

PROTOCOLS

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