SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIH p80 (N-19): sc-6859

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 5 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. Fischer, L., et al. 1991. Cloning of the 62-kilodalton 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.
6. Flores, O., et al. 1992. Factors involved in specific transcription by mammalian RNA polymerase II. J. Biol. Chem. 267: 2786-2793.

CHROMOSOMAL LOCATION

Genetic locus: ERCC2 (human) mapping to 19q13.32; Ercc2 (mouse) mapping to 7 A3.

SOURCE

TFIIH p80 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TFIIH p80 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.

Blocking peptide available for competition studies, sc-6859 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-6859 X, 200 µg/0.1 ml.

APPLICATIONS

TFIIH p80 (N-19) is recommended for detection of TFIIH p80 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 p80 (N-19) is also recommended for detection of TFIIH p80 in additional species, including canine and bovine.

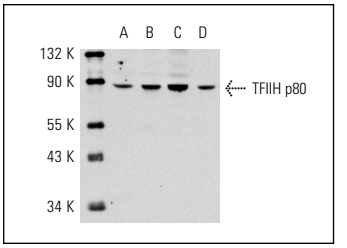
Suitable for use as control antibody for TFIIH p80 siRNA (h): sc-36653, TFIIH p80 siRNA (m): sc-36654, TFIIH p80 shRNA Plasmid (h): sc-36653-SH, TFIIH p80 shRNA Plasmid (m): sc-36654-SH, TFIIH p80 shRNA (h) Lentiviral Particles: sc-36653-V and TFIIH p80 shRNA (m) Lentiviral Particles: sc-36654-V.

TFIIH p80 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TFIIH p80: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

DATA



TFIIH p80 (N-19): sc-6859. Western blot analysis of TFIIH p80 expression in HeLa (**A**), A-431 (**B**) and K-562 (**C**) whole cell lysates and C32 (**D**) nuclear extract.

SELECT PRODUCT CITATIONS

1. Metivier, R., et al. 2003. Estrogen receptor-α directs ordered, cyclical, and combinatorial recruitment of cofactors on a natural target promoter. Cell 115: 751-763.
2. Merkel, P., et al. 2003. Insulin and glucose regulate the expression of the DNA repair enzyme XPD. Mol. Cell. Endocrinol. 201: 75-85.
3. Narayanan, A., et al. 2007. The coactivator host cell factor-1 mediates Set1 and MLL1 H3K4 trimethylation at herpesvirus immediate early promoters for initiation of infection. Proc. Natl. Acad. Sci. USA 104: 10835-10840.

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.