SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIH p80 (184.7): sc-101174

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 ERCC3 is involved in the human repair disorders xeroderma pigmentosum and Cockayne's syndrome. Cell 62: 777-791.

CHROMOSOMAL LOCATION

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

SOURCE

TFIIH p80 (184.7) is a mouse monoclonal antibody raised against recombinant TFIIH p80 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TFIIH p80 (184.7) 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

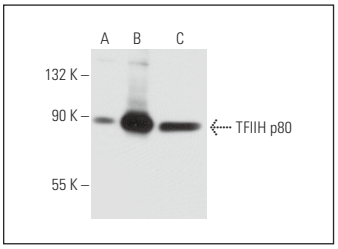
Molecular Weight of TFIIH p80: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, TFIIH p80 (m): 293T Lysate: sc-127645 or TFIIH p80 (h): 293T Lysate: sc-111706.

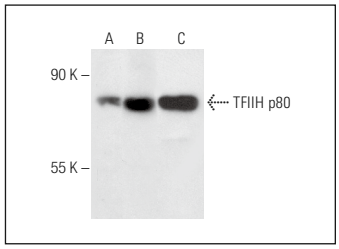
STORAGE

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

DATA



TFIIH p80 (184.7): sc-101174. Western blot analysis of TFIIH p80 expression in non-transfected 293T: sc-117752 (**A**), human TFIIH p80 transfected 293T: sc-111706 (**B**) and HeLa (**C**) whole cell lysates.



TFIIH p80 (184.7): sc-101174. Western blot analysis of TFIIH p80 expression in non-transfected 293T: sc-117752 (**A**), mouse TFIIH p80 transfected 293T: sc-127645 (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Gopalakrishnan, K., et al. 2010. Hydrogen peroxide induced genomic instability in nucleotide excision repair-deficient lymphoblastoid cells. Genome Integr. 1: 16.
2. Stehling, O., et al. 2012. MMS19 assembles iron-sulfur proteins required for DNA metabolism and genomic integrity. Science 337: 195-199.
3. Stehling, O., et al. 2013. Human CIA2A-FAM96A and CIA2B-FAM96B integrate iron homeostasis and maturation of different subsets of cytosolic-nuclear iron-sulfur proteins. Cell Metab. 18: 187-198.
4. Vashisht, A.A., et al. 2015. The association of the xeroderma pigmentosum group D DNA helicase (XPD) with transcription factor IIH is regulated by the cytosolic iron-sulfur cluster assembly pathway. J. Biol. Chem. 290: 14218-14225.
5. Sadik, H., et al. 2016. HOXC10 expression supports the development of chemotherapy resistance by fine tuning DNA repair in breast cancer cells. Cancer Res. 76: 4443-4456.
6. Fan, X., et al. 2022. Iron-regulated assembly of the cytosolic iron-sulfur cluster biogenesis machinery. J. Biol. Chem. 298: 102094.
7. Sales, A.H., et al. 2022. Treatment of human HeLa cells with black raspberry extracts enhances the removal of DNA lesions by the nucleotide excision repair mechanism. Antioxidants 11: 2110.

RESEARCH USE

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

PROTOCOLS

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