SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIH p62 (G-10): sc-48431

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.

CHROMOSOMAL LOCATION

Genetic locus: GTF2H1 (human) mapping to 11p15.1; Gtf2h1 (mouse) mapping to 7 B4.

SOURCE

TFIIH p62 (G-10) is a mouse monoclonal antibody raised against amino acids 249-548 mapping near the C-terminus of TFIIH p62 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TFIIH p62 (G-10) is recommended for detection of TFIIH p62 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).

Suitable for use as control antibody for TFIIH p62 siRNA (h): sc-38530, TFIIH p62 siRNA (m): sc-38531, TFIIH p62 shRNA Plasmid (h): sc-38530-SH, TFIIH p62 shRNA Plasmid (m): sc-38531-SH, TFIIH p62 shRNA (h) Lentiviral Particles: sc-38530-V and TFIIH p62 shRNA (m) Lentiviral Particles: sc-38531-V.

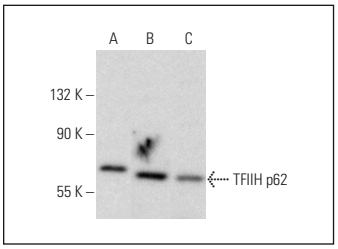
Molecular Weight of TFIIH p62: 62 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, AMJ2-C8 whole cell lysate: sc-364366 or A-10 cell lysate: sc-3806.

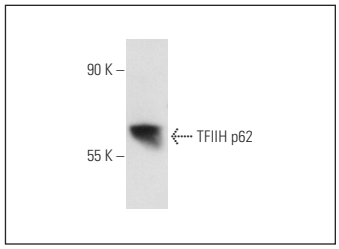
STORAGE

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

DATA



TFIIH p62 (G-10): sc-48431. Western blot analysis of TFIIH p62 expression in Jurkat (**A**), AMJ2-C8 (**B**) and A-10 (**C**) whole cell lysates.



TFIIH p62 (G-10): sc-48431. Western blot analysis of TFIIH p62 expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Zhu, Q., et al. 2009. Chromatin restoration following nucleotide excision repair involves the incorporation of ubiquitinated H2A at damaged genomic sites. DNA Repair 8: 262-273.
2. Zhu, Q., et al. 2012. Lack of CAK complex accumulation at DNA damage sites in XP-B and XP-B/CS fibroblasts reveals differential regulation of CAK anchoring to core TFIIH by XPB and XPD helicases during nucleotide excision repair. DNA Repair 11: 942-950.
3. Torresilla, C., et al. 2013. Detection of the HIV-1 minus-strand-encoded antisense protein and its association with autophagy. J. Virol. 87: 5089-5105.
4. Chen, S., et al. 2019. The antioxidant MitoQ protects against CSE-induced endothelial barrier injury and inflammation by inhibiting ROS and autophagy in human umbilical vein endothelial cells. Int. J. Biol. Sci. 15: 1440-1451.
5. Nakazawa, Y., et al. 2020. Ubiquitination of DNA damage-stalled RNAPII promotes transcription-coupled repair. Cell 180: 1228-1244.e24.
6. Wang, N., et al. 2020. Yeast β-D-glucan exerts antitumour activity in liver cancer through impairing autophagy and lysosomal function, promoting reactive oxygen species production and apoptosis. Redox Biol. 32: 101495.
7. Gao, L., et al. 2021. Autophagy-induced p62 accumulation is required for curcumol to regulate KLF5-mediated angiogenesis in liver sinusoidal endothelial cells. Toxicology 452: 152707.

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.