SANTA CRUZ BIOTECHNOLOGY, INC.

Ku-70 (C-19): sc-1486

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ku protein is localized in the nucleus and is composed of subunits referred to as Ku-70 (or p70) and Ku-86 or (p86). Ku was first described as an auto-antigen to which antibodies were produced in a patient with scleroderma polymyositis overlap syndrome, and was later found in the sera of patients with other rheumatic diseases. Both subunits of the Ku protein have been cloned, and a number of functions have been proposed for Ku, including cell signaling, DNA replication and transcriptional activation. Ku is involved in Pol II-directed transcription by virtue of its DNA binding activity, serving as the regulatory component of the DNA-associated protein kinase that phosphorylates Pol II and transcription factor Sp. Ku proteins also activate transcription from the U1 small nuclear RNA and the human transferrin receptor gene promoters. A Ku-related protein designated the enhancer 1 binding factor (E1BF), composed of two subunits, has been identified as a positive regulator of RNA polymerase I transcription initiation.

CHROMOSOMAL LOCATION

Genetic locus: XRCC6 (human) mapping to 22q13.2; Xrcc6 (mouse) mapping to 15 E1.

SOURCE

Ku-70 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Ku-70 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-1486 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-1486 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

Ku-70 (C-19) is recommended for detection of Ku-70 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 Ku-70 siRNA (h): sc-29383, Ku-70 siRNA (m): sc-35764, Ku-70 shRNA Plasmid (h): sc-29383-SH, Ku-70 shRNA Plasmid (m): sc-35764-SH, Ku-70 shRNA (h) Lentiviral Particles: sc-29383-V and Ku-70 shRNA (m) Lentiviral Particles: sc-35764-V.

Molecular Weight of Ku-70: 70 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, C32 whole cell lysate: sc-2205 or HeLa whole cell lysate: sc-2200.

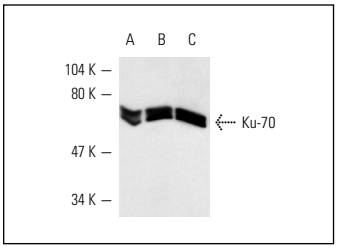
RESEARCH USE

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

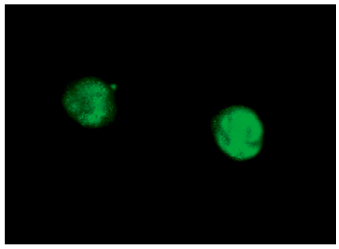
STORAGE

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

DATA



Ku-70 (C-19): sc-1486. Western blot analysis of Ku-70 expression in A-431 (**A**), HeLa (**B**) and C32 (**C**) whole cell lysates.



Ku-70 (C-19): sc-1486. Immunofluorescence staining of methanol-fixed A-431 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

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3. Zarzycki, P.K., et al. 2009. Optimization of a solid-phase extraction protocol for fractionation of selected steroids using retention data from micro thin-layer chromatography. Anal. Sci. 25: 935-939.
4. Wang, H., et al. 2010. Characteristics of DNA-binding proteins determine the biological sensitivity to high-linear energy transfer radiation. Nucleic Acids Res. 38: 3245-3251.
5. Machida, K., et al. 2010. Hepatitis C virus inhibits DNA damage repair through reactive oxygen and nitrogen species and by interfering with the ATM-NBS1/Mre11/Rad50 DNA repair pathway in monocytes and hepatocytes. J. Immunol. 185: 6985-6998.
6. De Zio, D., et al. 2011. The DNA repair complex Ku70/86 modulates Apaf1 expression upon DNA damage. Cell Death Differ. 18: 516-527.
7. Li, B., et al. 2011. Depletion of Ku70/80 reduces the levels of extrachromosomal telomeric circles and inhibits proliferation of ALT cells. Aging 3: 395-406.
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