SANTA CRUZ BIOTECHNOLOGY, INC.

Ku-86 (H-300): sc-9034

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 autoantigen 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: XRCC5 (human) mapping to 2q35; Xrcc5 (mouse) mapping to 1 C3.

SOURCE

Ku-86 (H-300) is a rabbit polyclonal antibody raised against amino acids 433-732 mapping at the C-terminus of Ku-86 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

Ku-86 (H-300) is recommended for detection of Ku-86 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), immunohistochemistry (including paraffin-embedded sections) (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-86 siRNA (h): sc-29384, Ku-86 siRNA (m): sc-35765, Ku-86 shRNA Plasmid (h): sc-29384-SH, Ku-86 shRNA Plasmid (m): sc-35765-SH, Ku-86 shRNA (h) Lentiviral Particles: sc-29384-V and Ku-86 shRNA (m) Lentiviral Particles: sc-35765-V.

Molecular Weight of Ku-86: 86 kDa.

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

RESEARCH USE

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

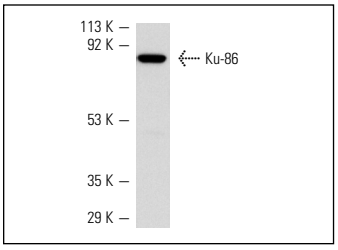
PROTOCOLS

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

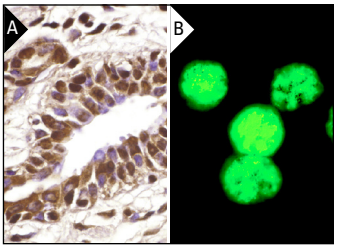
STORAGE

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

DATA



Ku-86 (H-300): sc-9034. Western blot analysis of Ku-86 expression in K-562 whole cell lysate.



Ku-86 (H-300): sc-9034. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor (**A**). Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Wilkinson, D.E., et al. 2004. Recruitment of cellular recombination and repair proteins to sites of herpes simplex virus type 1 DNA replication is dependent on the composition of viral proteins within prereplicative sites and correlates with the induction of the DNA damage response. J. Virol. 78: 4783-4796.
2. Korabiowska, M., et al. 2004. Down-regulation of Ku-70 and Ku-80 mRNA expression in transitional cell carcinomas of the urinary bladder related to tumor progression. World J. Urol. 22: 431-440.
3. Taylor, T.J., et al. 2004. Proteomics of herpes simplex virus replication compartments: association of cellular DNA replication, repair, recombination, and chromatin remodeling proteins with ICP8. J. Virol. 78: 5856-5866.
4. Patel, S.R., et al. 2004. Expression of Pax2 in the intermediate mesoderm is regulated by YY1. Dev. Biol. 267: 505-516.
5. Ogiwara, H. and Kohno, T. 2012. CBP and p300 histone acetyltransferases contribute to homologous recombination by transcriptionally activating the BRCA1 and RAD51 genes. PLoS ONE 7: e52810.
6. Simoes, M., et al. 2013. Host DNA damage response facilitates African swine fever virus infection. Vet. Microbiol. 165: 140-147.
7. Mohni, K.N., et al. 2013. Efficient herpes simplex virus 1 replication requires cellular ATR pathway proteins. J. Virol. 87: 531-542.
8. Abdelbaqi, K., et al. 2013. Ku protein levels, localization and association to replication origins in different stages of breast tumor progression. J. Cancer 4: 358-370.