

Ku-86 (M-20): sc-1485

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

SOURCE

Ku-86 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Ku-86 of mouse 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-1485 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ku-86 (M-20) 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: C32 whole cell lysate: sc-2205, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

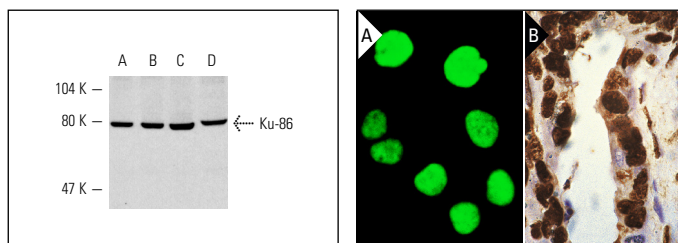
STORAGE

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.

DATA



Ku-86 (M-20): sc-1485. Western blot analysis of Ku-86 expression in A-431 (A), HeLa (B), C32 (C) and MM-142 (D) whole cell lysates.

Ku-86 (M-20): sc-1485. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma tissue showing nuclear localization (B).

SELECT PRODUCT CITATIONS

- Gu, Y., et al. 1997. Ku-70 deficient embryonic stem cells have increased ionizing radiosensitivity, defective DNA end-binding activity, and inability to support V(D)J recombination. Proc. Natl. Acad. Sci. USA 94: 8076-8081.
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- Soutoglou, E., et al. 2007. Positional stability of single double-strand breaks in mammalian cells. Nat. Cell Biol. 9: 675-682.
- Trougakos, I.P., et al. 2009. Intracellular clusterin inhibits mitochondrial apoptosis by suppressing p53-activating stress signals and stabilizing the cytosolic Ku70-Bax protein complex. Clin. Cancer Res. 15: 48-59.
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- De Zio, D., et al. 2011. The DNA repair complex Ku70/86 modulates Apaf1 expression upon DNA damage. Cell Death Differ. 18: 516-527.
- Pérez-Castro, A.J. and Freire, R. 2012. Rad9B responds to nucleolar stress through ATR and JNK signalling, and delays the G₁-S transition. J. Cell Sci. 125: 1152-1164.



Try **Ku-86 (B-1): sc-5280** or **Ku-86 (Ku15): sc-33653**, our highly recommended monoclonal alternatives to Ku-86 (M-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Ku-86 (B-1): sc-5280**.