

Ku70 Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51617**Specification**

Ku70 Antibody - Product Information

Application	WB
Primary Accession	P12956
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	70 KDa
Antigen Region	1 - 60

Ku70 Antibody - Additional Information**Gene ID** 2547**Other Names**

X-ray repair cross-complementing protein 6, 364-, 4299-, 5'-deoxyribose-5-phosphate lyase Ku70, 5'-dRP lyase Ku70, 70 kDa subunit of Ku antigen, ATP-dependent DNA helicase 2 subunit 1, ATP-dependent DNA helicase II 70 kDa subunit, CTC box-binding factor 75 kDa subunit, CTC75, CTCBF, DNA repair protein XRCC6, Lupus Ku autoantigen protein p70, Ku70, Thyroid-lupus autoantigen, TLAA, X-ray repair complementing defective repair in Chinese hamster cells 6, XRCC6, G22P1

Target/Specificity

KLH conjugated synthetic peptide derived from human Ku70

Dilution

WB~~ 1:1000

Format

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

Storage

Store at -20 °C. Stable for 12 months from date of receipt

Ku70 Antibody - Protein Information**Name** XRCC6**Synonyms** G22P1**Function**

Single-stranded DNA-dependent ATP-dependent helicase that plays a key role in DNA non-homologous end joining (NHEJ) by recruiting DNA-PK to DNA (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Required for double-strand break repair and V(D)J recombination (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Also has a role in chromosome translocation (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Has a role in chromosome translocation (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). The DNA helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). It works in the 3'-5' direction (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). During NHEJ, the XRCC5-XRCC6 dimer performs the recognition step: it recognizes and binds to the broken ends of the DNA and protects them from further resection (PubMed:11493912, PubMed:12145306, PubMed:20493174, PubMed:2466842, PubMed:7957065, PubMed:8621488, PubMed:9742108). Binding to DNA may be mediated by XRCC6 (PubMed:11493912, PubMed:12145306, PubMed:20493174

[target="_blank">20493174](#), PubMed: [, PubMed: \[, PubMed: \\[, PubMed: \\\[\\\\). The XRCC5-XRRC6 dimer acts as a regulatory subunit of the DNA-dependent protein kinase complex DNA-PK by increasing the affinity of the catalytic subunit PRKDC to DNA by 100-fold \\\\(PubMed: \\\\[, PubMed: \\\\\[, PubMed: \\\\\\[, PubMed: \\\\\\\[, PubMed: \\\\\\\\[, PubMed: \\\\\\\\\[, PubMed: \\\\\\\\\\[\\\\\\\\\\\). The XRCC5-XRRC6 dimer is probably involved in stabilizing broken DNA ends and bringing them together \\\\\\\\\\\(PubMed: \\\\\\\\\\\[, PubMed: \\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\). The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step \\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\\\\\\\\[, PubMed: \\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\). Probably also acts as a 5'-deoxyribose-5-phosphate lyase \\\\\\\\\\\\\\\\\\\\\\\\\(5'-dRP lyase\\\\\\\\\\\\\\\\\\\\\\\\\), by catalyzing the beta-elimination of the 5' deoxyribose-5-phosphate at an abasic site near double-strand breaks \\\\\\\\\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\\). 5'-dRP lyase activity allows to 'clean' the termini of abasic sites, a class of nucleotide damage commonly associated with strand breaks, before such broken ends can be joined \\\\\\\\\\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\\\). The XRCC5-XRRC6 dimer together with APEX1 acts as a negative regulator of transcription \\\\\\\\\\\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\\\\). In association with NAA15, the XRCC5-XRRC6 dimer binds to the osteocalcin promoter and activates osteocalcin expression \\\\\\\\\\\\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\). Plays a role in the regulation of DNA virus-mediated innate immune response by assembling into the HDP-RNP complex, a complex that serves as a platform for IRF3 phosphorylation and subsequent innate immune response activation through the cGAS-STING pathway \\\\\\\\\\\\\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\). Negatively regulates apoptosis by interacting with BAX and sequestering it from the mitochondria \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\). Might have deubiquitination activity, acting on BAX \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\(PubMed: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\).\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/18362350\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/15023334\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/28712728\\\\\\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/12145306\\\\\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/8621488\\\\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/20383123\\\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/20383123\\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/9742108\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/8621488\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/7957065\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/2466842\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/20493174\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/12145306\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/11493912\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/9742108\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/8621488\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\(http://www.uniprot.org/citations/7957065\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\]\\\\\\\\\\\\\\(http://www.uniprot.org/citations/2466842\\\\\\\\\\\\\\)\\\\\\\\\\\\\]\\\\\\\\\\\\\(http://www.uniprot.org/citations/20493174\\\\\\\\\\\\\)\\\\\\\\\\\\]\\\\\\\\\\\\(http://www.uniprot.org/citations/12145306\\\\\\\\\\\\)\\\\\\\\\\\]\\\\\\\\\\\(http://www.uniprot.org/citations/11493912\\\\\\\\\\\)\\\\\\\\\\]\\\\\\\\\\(http://www.uniprot.org/citations/9742108\\\\\\\\\\)\\\\\\\\\]\\\\\\\\\(http://www.uniprot.org/citations/8621488\\\\\\\\\)\\\\\\\\]\\\\\\\\(http://www.uniprot.org/citations/7957065\\\\\\\\)\\\\\\\]\\\\\\\(http://www.uniprot.org/citations/2466842\\\\\\\)\\\\\\]\\\\\\(http://www.uniprot.org/citations/20493174\\\\\\)\\\\\]\\\\\(http://www.uniprot.org/citations/12145306\\\\\)\\\\]\\\\(http://www.uniprot.org/citations/11493912\\\\)\\\]\\\(http://www.uniprot.org/citations/9742108\\\)\\]\\(http://www.uniprot.org/citations/8621488\\)\]\(http://www.uniprot.org/citations/7957065\)](http://www.uniprot.org/citations/2466842)

Cellular Location

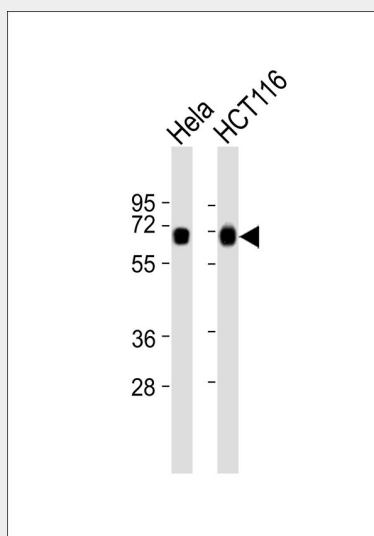
Nucleus. Chromosome. Cytoplasm. Note=When trimethylated, localizes in the cytoplasm.

Ku70 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Ku70 Antibody - Images



All lanes : Anti-Ku70 Antibody at 1:1000 dilution Lane 1: HeLa whole cell lysates Lane 2: HCT116 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 70 kDa Blocking/Dilution buffer: 5% NFDm/TBST.

Ku70 Antibody - Background

Single-stranded DNA-dependent ATP-dependent helicase. Has a role in chromosome translocation. The DNA helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner. It works in the 3'-5' direction. Binding to DNA may be mediated by XRCC6. Involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. The XRCC5/6 dimer acts as regulatory subunit of the DNA-dependent protein kinase complex DNA-PK by increasing the affinity of the catalytic subunit PRKDC to DNA by 100-fold. The XRCC5/6 dimer is probably involved in stabilizing broken DNA ends and bringing them together. The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step. Required for osteocalcin gene expression. Probably also acts as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), by catalyzing the beta-elimination of the 5' deoxyribose- 5-phosphate at an abasic site near double-strand breaks. 5'-dRP lyase activity allows to 'clean' the termini of abasic sites, a class of nucleotide damage commonly associated with strand breaks, before such broken ends can be joined. The XRCC5/6 dimer together with APEX1 acts as a negative regulator of transcription.

Ku70 Antibody - References

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