

# Ku70 Antibody

Rabbit mAb

Catalog # AP91239

## Product Information

|                          |                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>       | WB, IHC, IF, FC, ICC, IP, IHF                                                                                                        |
| <b>Primary Accession</b> | <a href="#">P12956</a>                                                                                                               |
| <b>Reactivity</b>        | Human                                                                                                                                |
| <b>Clonality</b>         | Monoclonal                                                                                                                           |
| <b>Other Names</b>       | CTC75; CTCBF; DNA repair protein XRCC6; G22P1; Ku 70; Ku autoantigen 70kDa; Ku autoantigen, 70kDa; Ku p70; Ku70; Kup70; TLAA; XRCC6; |
| <b>Isotype</b>           | Rabbit IgG                                                                                                                           |
| <b>Host</b>              | Rabbit                                                                                                                               |
| <b>Calculated MW</b>     | 69843                                                                                                                                |

## Additional Information

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| <b>Dilution</b>                     | WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:50 FC 1:50                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Purification</b>                 | Affinity-chromatography                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Immunogen</b>                    | A synthesized peptide derived from human Ku70                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Description</b>                  | 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. |
| <b>Storage Condition and Buffer</b> | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.                                                                                                                                                                                                                                                                                            |

## Protein Information

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| <b>Name</b>     | XRCC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Synonyms</b> | G22P1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Function</b> | 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: <a href="#">11493912</a> , PubMed: <a href="#">12145306</a> , PubMed: <a href="#">20493174</a> , PubMed: <a href="#">2466842</a> , PubMed: <a href="#">7957065</a> , PubMed: <a href="#">8621488</a> , PubMed: <a href="#">9742108</a> ). Required for double-strand break repair and V(D)J recombination (PubMed: <a href="#">11493912</a> , PubMed: <a href="#">12145306</a> , PubMed: <a href="#">20493174</a> , PubMed: <a href="#">2466842</a> , PubMed: <a href="#">7957065</a> , PubMed: <a href="#">8621488</a> , PubMed: <a href="#">9742108</a> ). Also has a role in chromosome translocation (PubMed: <a href="#">11493912</a> , PubMed: <a href="#">12145306</a> , PubMed: <a href="#">20493174</a> , PubMed: <a href="#">2466842</a> , PubMed: <a href="#">7957065</a> , |

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](#), PubMed:[2466842](#), PubMed:[7957065](#), PubMed:[8621488](#), PubMed:[9742108](#)). The XRCC5-XRCC6 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:[11493912](#), PubMed:[12145306](#), PubMed:[20493174](#), PubMed:[2466842](#), PubMed:[7957065](#), PubMed:[8621488](#), PubMed:[9742108](#)). The XRCC5-XRCC6 dimer is probably involved in stabilizing broken DNA ends and bringing them together (PubMed:[11493912](#), PubMed:[12145306](#), PubMed:[20493174](#), PubMed:[2466842](#), PubMed:[7957065](#), PubMed:[8621488](#), PubMed:[9742108](#)). The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step (PubMed:[11493912](#), PubMed:[12145306](#), PubMed:[20493174](#), PubMed:[2466842](#), PubMed:[7957065](#), PubMed:[8621488](#), PubMed:[9742108](#)). 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:[20383123](#)). 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:[20383123](#)). The XRCC5-XRCC6 dimer together with APEX1 acts as a negative regulator of transcription (PubMed:[8621488](#)). In association with NAA15, the XRCC5-XRCC6 dimer binds to the osteocalcin promoter and activates osteocalcin expression (PubMed:[12145306](#)). 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:[28712728](#)). Negatively regulates apoptosis by interacting with BAX and sequestering it from the mitochondria (PubMed:[15023334](#)). Might have deubiquitination activity, acting on BAX (PubMed:[18362350](#)).

## Cellular Location

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

## Images

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Western blot analysis of Ku70 expression in HeLa cell lysate.

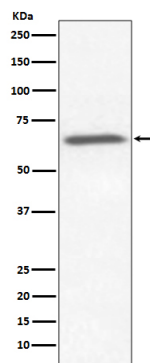


Image not found : 202311/AP91239-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human tonsil, using Ku70 Antibody.

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