

# Ku-70 Polyclonal Antibody

Catalog # AP70682

## Product Information

---

<b>Application</b>	WB, IHC-P
<b>Primary Accession</b>	<a href="#">P12956</a>
<b>Reactivity</b>	Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	69843

## Additional Information

---

<b>Gene ID</b>	2547
<b>Other Names</b>	XRCC6; G22P1; X-ray repair cross-complementing protein 6; 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-
<b>Dilution</b>	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/20000. Not yet tested in other applications. IHC-P~~N/A
<b>Format</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
<b>Storage Conditions</b>	-20°C

## Protein Information

---

<b>Name</b>	XRCC6
<b>Synonyms</b>	G22P1
<b>Function</b>	<p>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:<a href="#">8621488</a>, PubMed:<a href="#">9742108</a>). 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:<a href="#">8621488</a>, PubMed:<a href="#">9742108</a>). The DNA helicase II complex binds preferentially to fork-like ends of</p>

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

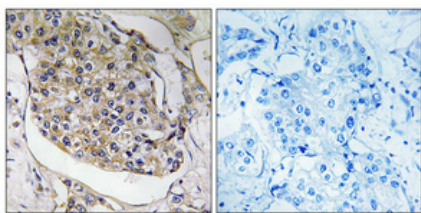
Nucleus. Chromosome. Cytoplasm. Note=When trimethylated, localizes in the cytoplasm.

## 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. 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.

## Images

---



Immunohistochemical analysis of paraffin-embedded Human breast cancer. Antibody was diluted at 1:100(4°,overnight). High-pressure and temperature Tris-EDTA,pH8.0 was used for antigen retrieval. Negative contrl (right) obtaned from antibody was pre-absorbed by immunogen peptide.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.